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ORIGINAL ARTICLES

THE RADICAL CURE OF HERNIAS SEEN BY THE COUNTRY SURGEON.*

By C. H. Suddarth, M. D., Smithville, Mo.

A quarter of a century ago, the results from the radical operations for the cure of hernia, even in the large hospitals, were attended with so many failures that the operation was practically abandoned, excepting only in cases of strangulated hernia. With the vast improvement of modern methods, operation is now recommended by all intelligent physicians, intead of wearing for life the unreliable truss. We regret that some of our standard text books on surgery continue to waste time and space in the description of the unreliable and dangerous truss, which offers no hope of cure. The general practitioner, particularly he who is doing surgery in the rural districts, ought to be sufficiently educated in anatomy and the technic of this operation to know of the brilliant results obtained and to perform the operation himself, or recommend it, instead of being satisfied with results of the truss.

Where this operation has been performed, statistics show the remarkably low mortality of .5%, or one death in five hundred. We are very much encouraged in operating, by statistics from reliable sources. Coley reports 1185 operations by the Bassini method with one per cent. failure. Eisendrath, of Chicago, reports one per cent. not cured. Many other operators report just as favorably. With such a low percentage of mortality and such a high percentage of cure, why should we hesitate to recommend the operation, when hernia, to say nothing of its unpleas-

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antness, debars men from military service, athletic enjoyments or physical labor, and by its large increase in size renders the individual incapacitated for any business, to say nothing of the constant danger of strangulation?

The operative methods previous to 1890, made no effort to improve the anatomical defects of nature. In 1890, Bassini and Halstead revolutionized the operation for inguinal hernia. Bassini transplanted the cord above the internal oblique and transversalis muscles, covering it with the aponeurosis of the external oblique. Halstead went one step farther by transplanting the cord above the external oblique, leaving it covered by skin and superficial fascia. Furguson, after high ligation of the sac, closed the canal without transplanting the cord. Anders split the aponeurosis of the external oblique, bringing the lower or innermost portion beneath the cord, and the external portion above it, forming a new canal.

The success of the operation depends upon a thorough knowledge of the anatomy of the part, the function of each tissue and the forces that may act in driving the intestines and omentum into this canal. The complete removal of the sac and return of the stump to the abdominal cavity by closing the internal abdominal ring close about the cord, and by using a strong muscular tissue to act as a valve to close the opening, completes the operation. This forms a new inguinal canal, changing the point of resistance.

This operation can be safely performed in the ordinary home provided the laws of asepsis are rigidly enforced. The operation should be done immediately upon detecting the hernia, and a truss never recommended as a compromise. If there should be strangulation, chloroform had best be given, taxis tried and, if unsuccessful, the operation performed at once before beginning of inflammation. In the first mentioned condition we permanently cure the hernia without any risk of life or danger of strangulation. In the second condition we prevent the injurious results of inflammation, adhesion, et cetera.

No one can deny that to move these patients a distance to a hospital greatly increases the danger to life.

The varieties of hernia are epiplocele, enterœpiplocele, or an enterocele which commonly strangulates.

The operation that has given best satisfaction in my hands is that where the incision is made from the anterior spine of the pubis, or over the most prominent portion of the tumor, in a semi-circular form to within about two inches of the anterior spine of the illium, convexity upward, concavity downward, leaving a space of one and a half inches at the widest part from Poupart's ligament. The skin subcutaneous cellular tissue and superficial facia are divided, being careful not to mistake the aponeurosis of the external oblique for the superficial fascia, as it is only a fascia here and has no muscular fibers. It is then divided and flaps are reflected exposing the coverings of the cord, great care being taken to prevent hemorrage. In case of strangulation, with a groove di-

rector as a guide, or better your finger, follow the upper margin of the sac to the internal abdominal ring or constricting band. Pass beneath it with a blunt point curved bistoury cut upward and inward only enough to relieve tension. As soon as this is done the tumor will be reduced in size and can be returned at will.

The coverings of the cord are now opened and the sac separated from the cord by blunt dissection up to and including the internal ring. The sac is then opened and the contents freed of adhesions. If the circulation is thoroughly established the hernia is returned to the abdominal cavity. The sac is then ligated with catgut as high up as possible, divided transversely and dropped into the abdominal cavity.

The cord is held to one side by an assistant and with a No. 3 twenty-day catgut ligature, a needle threaded on each end, the suture is first passed through the muscular fibers of the internal oblique and transversalis above the cord. Both needles are then passed through the shelving edge of Poupart's ligament and tied, closing the upper or external border of the internal abdominal ring. With a catgut suture, same as before, with a needle on but one end, the cord is then lifted from its resting place, the needle is passed through the internal oblique and transversalis, as close to the cord as possible without causing constriction, then the shelving portion of Poupart's ligament, and tied, closing the internal abdominal ring close about the cord. With the same suture the internal oblique, transversalis and conjoined tendon are sewed to the shelving portion of Poupart's ligament by a continuous suture. The aponeurosis of the external oblique is then brought over the cord and with the superficial fascia and closed with twenty-day No. 3 catgut in a continuous suture. The skin is then closed with a subcutaneous suture of silkworm gut that can be removed on the ninth or tenth day. I then put on my dressing, which is held in place by a figure of eight bandage; this is removed in four or five days unless indications demand its removal earlier.

The suture placed above and below the cord decreases the size of the internal abdominal ring, so that it is not necessary to resect the veins unless they are very large. The advantage of transplanting the cord and overlapping it with aponeurotic and muscular structures are, that while they are elastic, they possess great muscular strength and are not liable to give way. I have also found the circular incision to be of advantage, giving more room and better view of the field of operation and making a stronger abdominal wall by not placing one layer of suture directly above the other, which, in some cases from the swelling, gives more pain by pressure on the cord and therefore more liable to result in permanent injury.

DISCUSSION.

Dr. A. R. Kieffer, St. Louis: This is an excellent paper on account of its clearness, but there are, I think, however, some few points in the modern operations on hernia that he did not mention and which I have found very beneficial.

In the first place, I always use gloves. Then, too, instead of using No. 3 catgut, I use No. 1, and would prefer No. 0. My experience is that you can tie a better knot with the smaller size. I believe if you get in the habit of using small catgut you will find it more satisfactory. I have not found it necessary to use a circular incision to get more room. You will find that when the hernia is large and rather old, the tissues are thin and redundant. The Bassini operation in these cases does not suit me. The Halstead or Andrews operation is better. The chief indication is to use small catgut and sew close to cord. Although the essayist said nothing about drainage, I should like to remark that formerly I was unable to get along without a tube or gauze wick. I have learned, however, that a clean careful technic needs a few strands of catgut only for drainage.

Dr. Suddarth, in closing: I got in the habit of using the large catgut on account of one case I had, an old man seventy years of age, who had strangulated hernia. He was a fellow with his own ideas. I used a small catgut. He got up the next day and would not remain in bed. Since then I have guarded against my patients getting up the next day by using a larger catgut.

As to drainage, I have never used it in any of these cases, and have not had any bad results. I sometimes use gloves but it depends upon what I have been doing before hand. If I have been in a pus case I always use them.

SURGICAL TREATMENT OF AMEBIC DYSENTERY BY APPENDICOSTOMY.*

By Rodney J. Bunch, M. D., St. Louis.

The operation known as appendicostomy was first suggested by Keetly, of London, in 1894, to establish an opening through the appendix with the external world for the purpose of relieving a bowel obstruction where lesion occurred below the cæcum; but it was not till 1902 that his suggestion was carried out. Dr. Weir, of New York, did the operation for the purpose of treating a case of colitis where he wished to flush the bowel and at same time medicate and nourish his patient. Since that time the operation has found a place in the treatment of several intestinal disturbances where the exciting cause is situated below the cæcum. Certain cases have been successfully treated, such as obstinate constipation, colitis, diffuse septic peritonitis, abdominal distention, and the one of

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which I am about to speak, namely, amebic dysentery. We have found that the large bowel plays the chief role in the absorption of liquids and as much as ten per cent. of fats can be taken up in the large bowel, hence the importance from the standpoint of nutrition. The operation is simple, practically without danger where reasonable care is exercised, the death rate being less than one per cent. in all reported cases.

OPERATION: The ordinary gridiron incision is made, as one would do it in the ordinary uncomplicated appendicitis cases; after bringing appendix through abdominal opening, a loose ligature is thrown around mesoappendix being careful not to pinch off the blood supply and produce necrosis. The base of the appendix is pulled up to abdominal wall by an assistant, making gentle traction on the ligature through the mesoappendix. The operator then sews the base of appendix to the parietal peritoneal wall. The appendix is then walled off by means of small gauze strips and allowed to remain untouched for thirty-six hours, when adhesions of peritoneum will be firm and avoid all possibility of infection when appendix is opened up. This is accomplished by simply cutting away the tip of appendix, then placing two small silk stay-sutures through skin, then include muscular and mucous coats of appendix in order to prevent the mucosa from retracing and offer difficulty in opening the lumen of the appendix. The next step is to dilate the appendix in order that irrigation may be accomplished with ease. To prevent a stenosis and closure of the lumen, a sound, number 10 or 12 English, is passed daily for two weeks; or better still is to leave the catheter in the appendix for ten days, after which little trouble is encountered.

The apparatus for the treatment is simple, consisting of an ordinary female catheter, a piece of soft rubber tubing and a small funnel through which fluids are passed into bowel. No force is required; simply let gravity force the fluids and patient will complain of little or no pain. As much as six quarts in introduced, and patient will usually retain this from one-half to three-quarters of an hour, then expel as an ordinary enema. The choice of the solution to be used is one to be decided by operator, as many drugs have found a place in the treatment of amebic dysentery. Quinine, cupric sulphate and the silver salts, have given the best results. Quinine in solution 1 to 5,000, gradually increased to 1 to 1,000, is used, and some authors even use it stronger. Cupric sulphate is used in strength of 1 to 5,000, or 1 to 3,000. Silver nitrate, grs. 1 to 2 to the ounce to be followed by normal saline solution. The salts of lead and mercury are used but I have never tried them. In the case which I shall show you, quinine and cupric sulphate have been used and without an unpleasant result so far as I know.

This patient, J. S., white male, age 33 years, Russian by birth, two years in St. Louis, was admitted to the City hospital Jan. 8, 1909, with a history of having spent the summer in Arkansas, and since that time has suffered with intestinal trouble, which he terms "bloody flux." The stool contains blood and mucus and upon microscopical examination many

large, actively motile, ameba, some of which contain red blood corpuscles, are found. Patient has slight fever, 99° oral. No appetite, intense thirst and is seemingly very ill; is confined to bed. The usual mouth medication proved futile and it was decided to irrigate the bowel by means of appendicostomy, which operation was carried out Jan. 26th. Since that time patient has improved steadily without complications so far as I am able to determine. Patient has gained 20 pounds, eats and sleeps well, has solid stool and, at last examination, ameba negative. The intestinal tract is irrigated once every five days with quinine solution and patient has been up for two weeks.

CONTRAINDICATIONS: All cases are not suited for appendicostomy and where the appendix is firmly bound down by adhesions, constricted lumen, malformation, new growth and an infantile organ, exist, the operation can not be successfully done. In 100 autopsies at St. George's hospital, London, the appendix was a fibrous cord in two cases, in two cases the lumen only admitted a bristle, and the remaining ninety-six subjects could have permitted the operation.

CONCLUSION: 1. Appendicostomy is a simple and safe operation. 2. Few ill after effects occur. 3. Patient does not complain of treatment and improves in the majority of cases. 4. Is a valuable aid to mouth medication. 5. Appendicitis chances lessened.

DISCUSSION.

Dr. A. R. Kieffer, St. Louis: I would like to ask, what advantage there is in irrigating the colon through the lumen of the appendix, over irrigating through the anus? I canont report a case of amebic dysentery, but I had a case that was very persistent for a year and a half. I put him on a treatment of irrigation of the colon with a 3 per cent. solution of boracic acid. Many doctors use a long rectal tube, with a view of carrying the injection high up. By actual measurement, the colon is sixty-one inches long, the half way point being the splenic flexure. You cannot hope to often get a tube so far. If you will put your patient in the knee-chest position, you will find that the solution will run down by gravity to the dependent point of the arch of the colon, and by turning patient slowly to right side fill the ascending colon, and cecum. I have never been able to see why that would not do as much good as to open the abdomen and pull up the appendix. In the case I refer to, the treatment was eminently satisfactory. It seems not to be generally known that you can flush and fill every part of the colon by putting the patient through that manipulation.

Dr. J. D. Griffith, Kansas City: I have seen several cases of amebic dysentery, having been in the Philippines where it is prevalent. I have done appendicostomy in two cases, satisfactorily, using a quinine mixture, not the solution. I have used the bisulphate of quinine through this opening, and I have used quinine solution, without appendicostomy. I have had seemingly good results, although I probably have not watched

my cases long enough yet. The first case I encountered came to me from Vera Cruz, Old Mexico. I worked with him and found that I could do nothing with quinine and acetone until I could give him plenty of iron, which I found wanting in the blood examination. I combined the previous treatment with iron of a soluble form, and that after ten days or two weeks of iron administration I commenced to do some good in the rectal work. I am satisfied that I could do as much good by simple lavage, with appendicostomy, or more, probably, than I could with the continuous quinine injections.

Dr. Coffey, Kansas City: The usual manner in giving a high injection or putting medicinal remedies into the sigmoid, or giving colonic irrigation is of little use, for we do not get the results we should. Why?

I have found a way which assists me in getting the solution to the point where it is needed. It is difficult, as we all know, to get any medication into the colon. It has been my custom to put the patient in the knee-chest position, and then use a Kelly speculum. By the aid of the reflector, I am able to see the lower end of the sigmoid, and get my injections directly into the sigmoid through a rectal tube.

Dr. Louis Rassieur, St. Louis: A year ago I had a patient who had several severe attacks of appendicitis. In one of the attacks I operated, removing the appendix. Evidently the ligature had slipped, because several days after the operation the Murphy drop enemata came out at the site of the operation. When, however, the physiological saline solution was given in large amounts, that is, not by the drop method, the fluid did not flow from the fistula, but acted as a laxative. This led me to infer that medication of the colon in dysentery could be well accomplished by using as a vehicle for the medicine a proctoclysis, as described by Dr. J. B. Murphy.

Dr. Bunch, in closing: I wish to say just a word to the statement by Dr. Kieffer in reference to the introduction of the rectal tube, that in three of these cases, mouth medication was tried in connection with the rectal tube. There are a number of cases of boracic acid poisoning on record, although I have never seen one. I believe the rectal tube, in the hands of a good man, would give good results, although I was unable to use it satisfactorily. We tried it and got no results; the patient did not improve.

Ordinarily we do not reach the cause of the trouble. The amœbi bury themselves under the mucosa of the bowel. The preparations used wash out some but many of them remain. I believe the ideal treatment consists of putting the large bowel to rest. How we are to do that, I do not know. Some have recommended the resection of the colon, which seems radical, but is endorsed by some good men.

PRACTICAL POINTS IN ABDOMINAL SURGERY.*

By C. C. Morris, M. D., St. Louis, Mo.

In presenting this subject for consideration, I have nothing new or startling to offer, my purpose being rather to emphasize certain cardinal essentials of every abdominal operation, which are passed over only too lightly by some operators, while wholly ignored by many others.

Success in abdominal surgery, as in all the affairs of life, depends very largely upon the observance of details. The patient should be very carefully examined with reference both to the local and general conditions; and the particular operation to be performed should be planned with exactness and care. "The operation should be conducted as speedily as is possible, consistent with complete and careful work. An operator should always be speedy, never hasty. Speed should be the achievement, not the aim of the operator."

It is of primary importance in anticipation of abdominal section, to arrive at a correct diagnosis, and while I grant it is not always possible to make an absolute pre-operative diagnosis, still this can usually be done with a reasonable degree of certainty, and should always be conscientiously attempted, if for no other reason than that the training thus acquired will become a valuable asset in operative technique, and post-surgical treatment. The limits of this paper will not permit me to dwell upon diagnostic methods, and it would be presumptous on my part to do so, since such methods are amply demonstrated in all modern text books of surgery. In making the diagnosis, especial attention should be given to a consideration of the gastrointestinal contents. This is of very great importance, especially if the operation is an emergency one, where no time can be spared for the proper preparation of the patient.

One of the most valuable assets of the abdominal surgeon is a knowledge of the bacteriology of the alimentary canal. Many problems connected with stomach and intestinal surgery could be more easily solved, if closer attention were given to this subject. In gunshot wounds of the abdomen the surgeon bases his prognosis, not only upon the extent of trauma sustained, but upon the fact as to whether the patient had an empty and sterile alimentary canal, or a loaded and infectious one. Surgeons familiar with these facts are not surprised to see a patient make a speedy recovery from an unrepaired gunshot wound of the stomach. The intestinal contents of the new-born are always sterile, which fact was first recognized by Bilroth in 1874. He also discovered that the yellow stools coming a few hours or days after birth are the first intestinal dis-

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charges to contain microörganisms. Other observers have shown that the appearance of bacteria in the stools depends upon the time at which the first nourishment is given, and that thereafter bacteria are present in some portion of the intestinal tract. Hence, under prevailing social conditions, after the first few hours of life, the intestinal canal ceases to be sterile and organisms can always be found.

Of these organisms two varieties are present: the permanent and the transient. The permanent variety in man is the colon bacillus; the transient includes any and all others that are introduced with food and drink. The origin of the colon bacillus is not definitely known, but there is little doubt that it enters with the food through the mouth during the administration of first nourishment to the infant, and that thereafter it remains a constant inhabitant of the alimentary canal throughout life, although it is not a necessary part of the human economy; for it has been shown by experimentation that the bacterial invasion of the intestinal canal is not essential to the life or comfort of the individual.

Experimental work, which has been amply confirmed, shows that life in young animals whose food and surroundings are sterile, is sustained with all ease. This being the case, is it too much to hope that, at some future time, evolution and education may bring about this ideal amicrobic social condition? Gillispi and Miller have shown that when bacteria are introduced with the food, there is a steady decrease, as digestion proceeds, and in proportion to the acidity of the gastric contents. According to their findings, at the end of nine hours the stomach contains no organisms and is absolutely sterile. In the duodenum the number of bacteria is small, and the further down in the intestine the material is from which the examination is made, the more numerous are the organisms, until the ileocecal valve is reached, where they attain their maximum number; from this point the number recedes, comparatively few being found in the large intestine.

In cases of colotomy for artificial anus, the distal portion of the gut is sterile, provided none of the contents from above reaches it. Cushing, of Baltimore, has made extensive investigation along this line in cases of intestinal fistula. In a case of jejunal fistula, he administered a glass of milk, and recovered it within a few minutes of ingestion with its bacteriological features practically unchanged. This shows the practical importance of the physiological character of the food. If the ingesta is fluid, it passes rapidly into the duodenum, and is little, if at all, altered by the transit through the stomach. If the food be solid, it will remain, perhaps for hours, in the stomach subject throughout to the action of the gastric juice, and when passed into the duodenum it will have the number of its bacteria greatly reduced. It is, therefore, of the greatest importance, if called upon to do laparotomy for gunshot wound of the abdomen, to know whether the patient has taken food recently, and, if so, whether it be solid or liquid.

Macfadyen has shown that the bacillus of anthrax, an organism eas-

ily killed by the action of the gastric juice, cannot be recovered from the intestine when taken after a full meal, but, when administered with a large amount of liquid on an empty stomach, its recovery from the lower bowel is easy. In one of Cushing's cases, the bacillus prodigiosus, which is especially susceptible to the action of the gastric juice, could be easily recovered from a jejunal fistula after its ingestion with inoculated milk.

The lesson to be drawn from the foregoing facts is, the importance of rendering the alimentary canal sterile before abdominal section, in so far as it is possible to do so. Furthermore, when the surgeon familiarizes himself with the action and life history of pathogenic bacteria, he is much better prepared to formulate and adopt a faultless technic.

Patients who present themselves for laparotomy should have from two to several days' preparation, the time being determined by the physical condition of the patient. After the diagnosis has been determined, the patient should be assigned a room in the hospital, and a nurse instructed to save and measure the urine for twenty-four hours. This is to determine not only the quantity passed in twenty-four hours, but to obtain a knowledge of the percentage of urea excreted for the same period. About ninety per cent. of the nitrogen taken in with the food is eliminated by a healthy individual through the kidneys in the form of urea. In other words, from five hundred to six hundred grains of urea are eliminated by an average sized, healthy, individual. If, therefore, the examination of the patient's urine shows but three hundred grains or less, it is an indication that the operation should be postponed until the proper elimination has been obtained. Surgeons who observe this rule will save their patients from a degree of danger by anesthesia, and themselves a great deal of anxiety immediately following the operation. I have no doubt that in case of death within forty-eight hours after operation, where the cause is usually given as surgical shock, the real cause may have been suppression of urine, due to the fact that the patient was not thoroughly and properly prepared with reference to this condition.

The factor which contributes mainly to a diminished elimination of urea is a faulty metabolism. The limits of this paper will not permit a lengthy discussion of this subject, but I desire to emphasize its importance, especially with reference to the administration of anesthetics. I recall two cases in my own practice; one, a case of catarrhal appendicitis; the other, a cyst of the right kidney, who died of suppression of urine after operation. In both of these cases the total amount of urea excreted in twenty-four hours did not exceed two hundred grains. I will mention a third case; a middle aged woman was brought to me with a simple ovarian cyst. After three days' preparation, during which time the elimination of urea amounted to but two hundred and fifty grains, I operated and removed the cyst, which had no adhesions and was attached by a small pedicle. There were no complications whatever from an operative standpoint, and the patient was not under chloroform more than thirty minutes. Following the operation the first twenty-four hours, only

twelve ounces of urine were excreted, with no increased percentage of urea. The second twenty-four hours the quantity was reduced to six ounces, and the third twenty-four hours the total quantity passed was but two ounces. By this time the patient was in a state of uremic coma. Examination of the wound showed it to be in a perfect condition.

The treatment consisted in placing the patient in hot blankets and surrounded with hot water bottles, which stimulated the skin and produced profuse sweating. At the same time diuretics and purgatives were administered effectually. The patient remained in the coma for five days, and made a slow but permanent recovery. As an illustration of how the surgeon's efforts sometimes fail of appreciation, the husband of this patient strongly threatened to sue me for malpractice, because his wife sustained some painful burns about the lower limbs and hips from contact with the hot water bottles.

Needless to say, these cases occurred in my earlier practice. My observation has been that in proportion as the excretion of urea approaches the normal, the patients will suffer less, do better from the start, and enjoy an uninterrupted convalescence. My observation will also bear out the statement that, as a rule, patients whose urea is normal, or nearly so, suffer less from nausea after anesthesia than those patients whose elimination of urea is much below the normal.

After determining a satisfactory elimination of urea, the next most important detail in the preparation of patients for abdominal section is to see that the alimentary canal is as sterile as can be made with our present knowledge of the subject. Beginning with the mouth, the teeth should be examined, and if cavities are present, should be treated and made sterile. The patient is supplied with a sterile toothbrush and antiseptic tooth paste or powder, and instructed to use it freely, immediately before and after taking nourishment and before going to sleep at night. Following the use of the brush, the mouth should be rinsed with sterile water. All food given during these days of preparation should be sterilized by thorough cooking; likewise, all liquids. While boiled water may answer the purpose, I prefer an ærated distilled water, where such is obtainable.

Fecal masses and decomposing material in the intestines should be removed, which I think can best be accomplished by repeated small doses of calomel, followed by sulphate of magnesia or other saline. This treatment should be given during the first twenty-four hours of preparation. I do not believe it good practice to reduce the quantity of food for a longer period than twenty-four hours immediately preceding the operation. I therefore allow patients their usual amount of nourishment, while preparing them for operation, but insist that they eat nothing uncooked. All nourishment taken must have been sterilized by thorough cooking, and the drinking water should be ærated and distilled, if possible; otherwise, it should be boiled.

During the twenty-four hours immediately preceding the operation, I allow about one-half the usual amount of nourishment. I find this

practice does not reduce the patient's strength nor lower his vital forces, which are of first importance in post-surgical treatment. The evening before operation, the patient is given a tub bath, the abdomen broadly shaved, and the patient allowed to pass the night without the discomfort of a wet antiseptic dressing. These dressings are not only a source of discomfort and annoyance, but they irritate the skin, and in some cases, at least, make it more difficult to obtain a sterile field. It is, therefore, better to prepare the abdomen after the patient is on the table. Especial emphasis should be given to cleansing the umbilicus, which is never as clean even as the surrounding skin. This can be done very thoroughly by first using liquid soap and a piece of sterile gauze on the end of a probe, after which the cavity should be filled with tincture of iodine or pure carbolic acid; if the latter is used, it should be neutralized with alcohol after a few seconds; if the former, it only needs to be touched with a sterile piece of gauze.

It is not my purpose to enter into the details of operative surgical technic, for many different methods are practiced with the same result, so far as asepsis is concerned. Hence, it makes little difference whether this or that method is employed. Every surgeon realizes that in so far as operative results are concerned, a strict attention to the surgical toilet—by himself, his assistants and nurses—is imperative. With some exceptions, it may be said that the result of an abdominal section is determined when the patient leaves the operating table. This, however, will depend in many cases, at least, upon the fact whether the surgeon continues to give his personal attention to the after treatment, or delegates that important responsibility to an assistant. I can not emphasize too strongly the importance of a surgeon giving his personal attention to the after treatment in all cases of celiotomy. Even with our advanced knowledge of surgical technic, wound infection occasionally follows an operation, when least expected. It is, therefore, important for the surgeon to know the kind of infection with which he has to deal. This can only be done by means of culture media or inoculation experiments. When the character of bacteria infesting the wound is known, the infection may be attacked scientifically with appropriate disinfectants, with therapeutic sera, or with vaccins. The incident of wound infection may be inferred from the local and general clinical symptoms; but an absolute knowledge can only be obtained by scientific laboratory methods and the use of the microscope. The application of these methods in isolating post-operative infection has, within a few years, approached a revolution in abdominal surgery.

To recapitulate: The points upon which I wish to place the greatest emphasis are:

1. The proper attention to the sterilization of the alimentary canal before every abdominal section.
2. The estimation of the percentage of urea excreted before the anesthetic is administered.
3. The importance of isolating the character of the bacteria in case of post-operative infection.

A BRIEF REVIEW OF MODERN SURGERY OF THE RECTUM.*

By J. S. Wallace, M. D., Brunswick, Mo.

The surgical treatment of diseases of the rectum has undergone many changes during the last few years, and my object is to touch very briefly upon points which mark the improvement over those formerly practiced. Since the adoption of aseptic methods in all details of operative surgery, rectal surgery has been stripped of many of its dangers.

The treatment of rectal disease is about the most unsatisfactory that the general practitioner has to contend with, owing to the dread that most persons so afflicted have of surgical interference. The great majority of operations, however, are free from risk to the patient and from anxiety to the surgeon. The natural tendency has therefore been to aim at shortening the period of convalescence, and we should select that mode of treatment which will give the least pain, the quickest repair and restore the patient again to his family, a useful citizen.

Local anesthesia, in many cases, is a godsend, and appeals to the patient as being safer than general narcosis, is safer if used properly, requires a less number of assistants and enables us to treat patients at home that would otherwise fall into the hands of the itinerant or advertising irregular.

The technique, as given by Dr. J. P. Tuttle, of New York, and recommended by such specialists as Drs. Gant, Bodine, Mathews and others, consists in anesthetizing the lesser sphincterian nerve and the inferior hemorrhoidal nerves by a single puncture of the hypodermic needle back of the posterior anal commissure, and the introduction of from twenty to thirty minims of one-half per cent. of cocaine or eucaine, so that the sphincter can be thoroughly stretched. After this is done, the hemorrhoids, or other conditions upon which operation is proposed, are anesthetized by the local injection of small quantities of one-tenth per cent. solution of eucaine, cocaine, stovaine or novacaine.

Sometimes it is necessary, in very sensitive patients, to anesthetize the branch of pudic nerve which supplies the sphincter at the anterior commissure by the introduction of small quantities of the solution at this point. Local anesthesia is limited to the cases in which the field of operation is not great and the time to be consumed is short. In operations involving wide and prolonged dissection, requires general anesthesia and should be operated upon in the hospital or at home.

What the surgeon terms painless and the patient terms painless are not always identical. Whatever the anesthetic employed or however

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slight the pain during the operation, post-operative pain is unavoidable unless opium or some other anodyne is used. The man who promises to operate on all rectal troubles without pain will be doomed to disappointment, but to him who selects his cases intelligently local anesthesia will prove a valuable aid.

The three most common conditions requiring surgical treatment are, fissure, fistula and hemorrhoids. In simple fissure of the anus, complete dilitation of the sphincters, the application of cocaine and then cauterizing with nitrate of silver, or the application of carbolic acid is quite sufficient to cure in the majority of cases. But when the disease is chronic, and the ulcer has an indurated base, divulsion of sphincter, complete excision and suturing the small wound left after excision, so as to obtain immediate union, is more satisfactory than linear incision formerly recommended.

If the ulcer is neglected, the patient afflicted with this trouble becomes pale, anemic, nervous and with a train of symptoms such as pain in the genitourinary organs, legs, thighs and back that are quite characteristic. Constipation is the rule, as the patient postpones an evacuation of the bowels as long as possible, and the pent-up pus is absorbed by the lymphatics and thus forms fistula in ano. In simple cases of fistula where the sinus is straight and single, a complete resection of all cicatricial and sinus tissue, and then uniting the wound with several tiers of buried catgut sutures, shortens the period of convalescence very greatly. With ordinary precaution there is no increased risk, and the results fully repay for the extra time and trouble taken.

It is not advisable to use sutures when the sinus extends far up in the bowels, around the bowel, or many sinuses extend into the surrounding tissues. In these cases it is best to incise the sinuses, wash the wound with a solution of bichloride of mercury and pack loosely with narrow strips of sterilized or iodoform gauze.

Whenever the presence of an ischio-rectal or anal abscess is detected, early incision is indicated and the wound should be thoroughly irrigated with a solution of bichloride of mercury, then packed with strips of sterilized gauze. The bowels should be kept open by some mild aperient or enema, and should be thoroughly cleansed after each operation, and the wound dusted with iodoform or aristol before being packed with sterilized gauze.

The three chief operative methods at present in use for the cure of hemorrhoids are the ligature, hypodermic injection, and the clamp and cautery. When hemorrhoids are polypoid in character and have healthy mucus membrane intervening, they can be quickly and efficiently removed by ligatures. After the patient is anesthetized, he is placed in lithotomy position, or in the Bozeman position for the operation of vesico-vaginal fistula, and the limbs supported by a Clover crutch, or some modification of it. The sphincter should then be thoroughly dilated and the tumor, grasped with a pair of artery forceps, is pulled down and a circular in-

cision is made through the mucus membrane at its base or through the integument or, should the tumor be at the verge of anus, with a pair of curved scissors. This incision severs the nerves of sensation, which enter from below, and makes the presence of the ligature less painful. A hypodermic injection of cocaine also relieves the pain very much. A needle, armed with a double thread of stout sterilized silk, is thrust through the base of the tumor. The thread is cut near the middle, and is tied in two portions in the groove made by the knife. After tying the knots it is best to snip off the summit of each tumor. A rubber tube, three or four inches long, wrapped with sterilized gauze, is inserted in the rectum to permit the escape of gas, and the stumps, after being thoroughly cleansed, are dusted with idoform and covered with idoform gauze, held in position with a T bandage.

In a few cases where the patient objected to the ligature or excision, I have made radical cures without pain by the hypodermic injection of a twenty per cent. solution of carbolic acid and ergot. Yet I have never operated in this manner without some degree of apprehension as to the results.

If the injection plan is resorted to, the following rules should guide us:

First, unless cocaine is used, inject only internal piles; however if an external pile be injected a few minutes beforehand with cocaine the pain can in a measure be prevented.

Second, use dilute forms of injection first, and stronger ones only when these fail.

Third, inject only one or two piles at a time and allow from ten to thirty days between operations. Apply vaseline to the surface to protect it from dripping during the operation and keep the syringe in a few moments to prevent the mixture from flowing out. Inject slowly.

Fourth, keep the patient in bed for a day or two.

Of all the operations suggested or now used, the clamp and cautery is the most popular routine treatment, gives best results, with less pain than the ligature, with the loss of little or no blood, the recovery is more rapid, and the danger is less than by any other method.

In the cautery operation care should be taken to secure scars parallel with the axis of the rectum and leave sufficient mucus membrane between the stumps to obviate the danger of stricture. In this operation the sphincter should be divulsed, the tumor seized with a vulsellum forceps and the clamp firmly adjusted around the base of the tumor, then excised with scissors, and the stump seared with the Paquelin cautery heated to a white heat. A well adjusted pad held in place with a T bandage should then be applied and a hypodermic injection of morphine given, if there is much pain. In some cases the whole circumference of the mucus membrane just within the white line is involved and the condition is associated before or after stretching of the sphincter with prolapse of the unaffected mucus membrane above. In these cases the liga-

ture or clamp, if used, would produce a hard cicatricial band at the verge of the anus; and in order to make the cure radical by surgery alone the morbid blood vessels must also be removed, either by knife or scissors, or both.

The profession is indebted to Mr. Whitehead, of Manchester, England, for introducing the more complete surgical procedure of excision of what he describes as the "pile-bearing area." The objections to the Whitehead operations are many. It is tedious, bloody, technically difficult and the sequelæ, such as secondary hemorrhage, everted or stenosed anus, loss of integrity of sphincters, soiling of linen from escape of soft fecal matter, doom the patient to constant mortification for the rest of his life. There are several modifications of the Whitehead operation, viz., that of Drs. Pratt and Henderson, but the same objections may be urged against them that are made to the Whitehead operation. In the post-operative care of these cases pain should be relieved with opium suppositories or morphia hypodermically; the bowels moved in two or three days, and the patient should not be allowed to be up too soon.

I have been able in the preceding paragraphs barely to outline the methods of treatment in some of the more common forms of rectal diseases and if I have succeeded in helping some brother physician, my mission will have been accomplished.

DISCUSSION.

Dr. J. D. Griffith, Kansas City: I have not done much rectal surgery since we have had Dr. Thrailkill. I heard Dr. Wallace talk about the clamp and cautery, and that may be all right now. I did it a number of years ago. I thought I was in clover at the time, but in the night about two or three o'clock the nurse called me up from the hospital, and I spent the night trying to stop the hemorrhage. I have never used the clamp and cautery since.

Dr. C. H. Suddarth, Smithville: With reference to the tube, I would say that I have myself had the experience of wearing the tube thirty-six to forty-eight hours. It has some peculiar advantages, at least over the method of leaving the external sphincter to do its work. Whether you do the Whitehead operation, the clamp and cautery, the ligature or other operations, you will find that you will once in a while run across a case of stricture. By wearing the tube for thirty-six to forty-eight hours, you lessen this tendency. I believe you see more strictures from the clamp and cautery and Whitehead operations than from any other. I therefore use the tube, not the large tube that Dr. Thrailkill speaks of, but a smaller one.

Dr. Stauffer, St. Louis: A few years ago some of us became very enthusiastic over the use of local anesthesia in retal surgery. I have about succeeded in diagnosing the cases suitable for local anesthesia. Any operation for hemorrhoids can be done without paralyzing the sphincter. I paralyzed just one too many and I have not been guilty since. I know

you can do the work under local anesthesia in your office, but doing the work and taking care of your patient are two different things. The use of infected syringes in giving enemas frequently has bad results. You will find that in the average family, every member of the family has a separate toothbrush, but usually they all use the same syringe.

RUPTURED BLADDER: REPORT OF A CASE.

By Frank J. Tainter, M. D., St. Charles, Mo.

Since the days of Maltrait, the mortality in cases of ruptured bladder has so materially changed, we begin to feel that nearly all cases of ruptured bladder, unaccompanied by injury to adjacent parts, should get well if operated upon early. It is with a feeling of reluctance that I report a case.

According to Maltrait, of 97 cases of intraperitoneal wounds of the bladder, only one recovered after laparotomy and suturing of the visceral wound, and this case was reported by Walter, of Pittsburg.

Rivington collected reports of 322 cases, 119 were intraperitoneal and 183 extraperitoneal; only 27 recovered and only one in which the wound was intraperitoneal,—the case of Walter's.

In 1882, Bartels analyzed 166 cases of ruptured bladder, which gave 149 deaths and 17 recoveries, a mortality of ninety per cent.

In 1903, D. F. Jones analyzed 54 cases of later occurrence, finding 26 deaths and 28 recoveries; mortality forty-eight per cent.

Of the 22 cases published since 1892, quoted by Horwitz, there have been 7 deaths and 15 recoveries; mortality twenty-seven and five-tenths per cent.

Prompt surgical intervention has succeeded in reducing this enormous mortality and is the best possible proof of the pressing necessity of making an early diagnosis and subjecting the visceral wound to direct treatment.

The vigilance on the part of physicians has brought the proportion of recoveries slowly forward, and the improvements and refinements in the surgical technic have nearly reduced the mortality to ten and fifteen per cent.

Injuries of the bladder are more likely to occur when the organ is distended with fluid, since it then rises above the symphisis pubis and the anterior wall becomes more exposed. It is a frequent injury when

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the pelvis is fractured, but occurs quite often unaccompanied by other injury.

Rupture of the bladder by compression of the distended organ occurs more frequently in the posterior superior wall and in an anteroposterior direction. There is an anatomical as well as a physical reason for this. At this point there is a weakness in the texture of the bladder wall, due to a wider separation of the muscular fibers. Besley properly concludes that the extent and the direction of the rupture depends on the disposition of the muscular fibers and not on the direction or force of the traumatic agent.

A fact that should not be lost sight of is that not an inconsiderable number of cases have been recorded in which the visceral wound was extraperitoneal.

Symptoms: The two symptoms that may be most relied upon in diagnosticating perforation or rupture of the bladder, are, hemorrhage and an empty bladder. Besley concludes, from an analysis of 23 cases of ruptured bladder which were treated in the Cook County hospital, that the diagnosis is not at all an easy matter. There are so many physical conditions which make the results in an examination so variable that we should not lose sight of this. For instance it is possible to have a ruptured bladder communicating with the peritoneal cavity and yet the catheter withdraw a definite amount of fluid which was injected; the fluid being more or less bloody and the absence of the distended bladder over the symphisis pubes would assist us in making proper deductions.

An extraperitoneal wound of the bladder is characterized by the profuseness of the hemorrhage. An intraperitoneal rupture of the posterior wall, by the escape of all the urine into the peritoneal cavity.

The catheter introduced into the bladder will demonstrate the latter condition unmistakably in the majority of cases.

In extraperitoneal ruptures a first glance at the abdomen might suggest an over-distended bladder, as the accumulated urine has distended the space of Retzius and loose perivesical connective tissue which then resembles the physical outlines of a distended bladder.

The catheter in this case will draw off a quantity of bloody urine with clots. The presence of clots is, however, a symptom of some questionable value in making a differential diagnosis of ruptured kidney.

The remote consequences of extra peritoneal rupture of the bladder are sloughing, gangrene, and death from sepsis.

Under ordinary circumstances the urine is sterile and nothing must be done to infect this accumulation of urine and blood clots. Mitchel reported, in *Annals of Surgery*, 1898, a case of recovery following operation on sixth day, and Quick in *Annals of Surgery*, 1907, reports a case he operated upon eleven days after injury which was followed by recovery.

The catheter perhaps is responsible for fifty per cent. of operative failures. What a temptation it is to some to introduce a catheter into the

bladder when a few drops of blood is seen issuing from the meatus urinarius following an injury, for diagnostic purposes, without first sterilizing the instrument and the external meatus.

Seeing so much carelessness on the part of nurses and midwives we are led to believe that the possibility of infecting the bladder is overestimated. In relieving a case of supposed ruptured bladder with a catheter, or for diagnostic purposes, if there be any degree of cleanliness it should be of the highest in the use of this instrument.

The septic peritonitis which so constantly sets in a day or two after the injury in intraperitoneal wounds of the bladder is often provoked by catherization.

The treatment of ruptured bladder is operative and the details are the same as in all modern operations of the day. There are no special features or instruments needed. The success depends upon the cardinal principles of surgery: *drainage* and *cleanliness*.

Report of case: E. G., 22 years old, railroad brakeman, was injured while coupling the air brake on St. Charles Accommodation, March 7, 1904. A signal was given to "back" while he was between the cars; he was caught between the buffers, rupturing his bladder which had not been emptied for about six or seven hours. The immediate shock was great. He was attended by his family physician who tried to get the family's consent for immediate operation, but failed. After forty hours, however, the patient was sent to St. Joseph's hospital where I saw him, with Drs. Mudd, Wentker and Stumberg.

The abdomen was markedly distended with fluid, pulse weak and respiration was labored due to mechanical pressure of the fluids on the diaphragm. With the assistance of Drs. Mudd, Wentker and Stumberg, I opened the abdomen in median line and found the abdominal cavity full of urine, blood and clots. The clots and urine were first washed out with copious hot salines. A procedure, the wisdom of which is questioned at this date. The effect of the salines upon the pulse was striking and gave me more confidence that I could do the patient some good. The fluids were then sponged out and the patient put in extreme Trendelenburg after bowels were pushed out of the field by large abdominal packs. This of course was difficult owing to the gaseous distention of bowels.

Posterior to the space of Retzius, and intraperitoneal, was a rent two and a half inches, extending from behind the fungus to the lower posterior wall. There was still free bleeding at this point. The edges of the rent were picked up with toothed forceps and drawn well up into the wound and a double row of Lembert sutures placed, the first row being plain catgut, the second row, silk thread. The abdominal cavity was again flushed with saline solution, a large glass drainage tube inserted through the lower angle of the wound and the abdominal walls closed. The patient was then put in Edebohls position and a median perineal section was done, to insure a freer exit for the urine as soon as it began to

accumulate. This however I feel at this time was not absolutely necessary but from the subsequent history I did not regret having done so.

The patient was put to bed in an exaggerated Fowler position and salines given per rectum. His recovery was more or less uneventful excepting a slight leakage of the bladder wound, which discharged a little urine around the drainage tube; this soon stopped and wound entirely healed in three weeks. He left the hospital after a total of five weeks. For the first six months he was obliged to get up at night three or four times to empty bladder. His bladder slowly accommodated the secretion and now five years since the injury, he is able to hold water all night and apparently is none the worse for his injury. Nearly three years ago he was married and has two children. He drives an express wagon and handles heavy freight and is as strong as ever.

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DISCUSSION.

Dr. H. C. Crowell, Kansas City: I would emphasize particularly the very great need for asepsis in cases of rupture of the bladder. I think these cases should be treated with a greater regard for asepsis than any other class. I have never had a case of rupture of the bladder but I have had cases of injury done at the time of operation in doing pelvic work or vaginal work, particularly in doing a vaginal fixation. If the incision is closed properly and in a cleanly manner, the result is usually good, and if these cases of injury are seen before infection takes place they usually make a good recovery.

SOME PROGRESS MADE IN MEDICINE AND SURGERY.*

By C. O. Dewey, M. D., Breckenridge, Mo.

It has been said that the American people are essentially different from those of the older countries in that their chief concern is for the present.

We have little regard for the past and too little concern for the future. Now is the time for action. We concentrate our energies and devote our time to accomplish what we have undertaken, in the shortest possible space of time—making us in the concrete a nation of intense workers.

This intense activity, this strenuous life, has made our country what it is to-day, the most prosperous in the world. Nor is this to be wondered at. Situated as we are in a new country with immense natural resources, and diversified climatic conditions primarily adapted to a cosmopolitan people whose ancestry, in many cases, were acquainted, and even burdened, with the yoke of oppression; and living as they now do under a republican form of government where man is free to live, to vote, and to worship according to the dictates of his own conscience; this is enough, I say, to inspire healthy and right-minded men to run the mighty race of life swiftly, albeit they do so at a fearful and, in many instances, a fatal risk. This body of ours is a marvel of delicate mechanism, composed of a number of vitally important structures and organs connected together and dominated, as it were, by a network of nerve tendrils and blood channels, in number almost beyond computation, crowded together in a small compact space so that every organ, bony structure, gland, nerve, blood-vessel, duct, and every atom works together, each dependent on the other, in such exact precision and nicety, that we might well exclaim—this, indeed, is the handiwork of a Great Artificer. But there is a limit to human endurance. When our bodies are taxed beyond a certain point, a fundamental law of nature has been violated, and we must pay the penalty no matter what the cost. It is more evident, as day succeeds day, that the world at large, and American people in particular, are setting the pace too swift.

Our state insane asylums, our county poor farms, private sanitariums and like institutions, are crowded to overflowing even now; the front pages of our daily newspapers are replete with accounts of suicides and murders. Under the awful strain, people very naturally feel the need of something to tone them up; they have no time for rest and recuperation, so it is that the manhattan cocktail, a whiskey sour or a gin-fizz be-

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comes popular. Another class becomes nervous and cannot sleep; they say they are troubled with insomnia; they take bromides, headache tablets, or powders, opiates in some form or another and the continued use of either class of drugs finally becomes a fixed habit, after which it is only a step to the sanitarium or a suicide's grave.

But this intense application to what lies at our feet, is by no means limited to the world of commerce; it is to be found in every line of endeavor—even the professions seem to be infected with the contagion, and none more enthusiastically so than the medical.

There is probably no country on the face of the globe in which the medical profession has made more rapid progress than in the United States of America. Of humble origin, nourished and reared by superstition, for ages an integral part of theology and priestcraft; faith, that inestimable gift to man was, for long, its guiding star. "Faith in simples, in fetishes, in amulets, in poisons, in the forces of nature, and in all the dread legion of phantasm that may be formulated by the mind," all these at times have held sway in medicine. There was no solid basis to work upon. But from an insignificant shrub a stately tree has developed, its numerous branches profusely laden with its blossoms and fruit, and the widely disseminated roots drawing their nourishment from a resourceful ground. The development of the art and science of medicine was exceedingly tardy. Checked and hampered as it was by superstition; retarded by the lack of investigation and of scientific study, it was many ages before the dawn of actual progress.

It was in the luster diffused from the great Italian universities during the Middle Ages, in which anatomy and physiology were first systematically taught, that there existed a ray of hope for the future. This was the period in which medicine and surgery were sharply separated. The physician of that day deemed it beneath his dignity to undertake any kind of operation and the barber was the surgeon—venesection, or the art of bleeding a person, was the universal operation. An epoch then appeared in which the natural sciences began to exert their influence on the development of medicine. Practice, which, up to that period had been conducted entirely on the basis of authority—the teachings and writings of the old masters—began to depend more and more on observation and research. Chemistry, the daughter of alchemy, developed into a rapidly growing science. Biology, which treats of the science of living organisms, was studied systematically, and natural science was invoked to elucidate, or make plain, many hitherto unexplained problems. Pathology, which treats of the nature of disease, was the natural outgrowth from anatomy, and histology, or a knowledge of the minute structure of tissues, arose from research in physiology.

But all the time the truth in reference to health and disease was not known and conservatism was the order of the day. Looked at in the abstract, the vital processes were so marvelous and so far from being understood, it is little wonder that an air of mystery surrounded them. It

was along about the year 1877 when it began to dawn upon teachers of medicine that students must not only see and hear but must also do, and that, as anatomy is learned in the dissecting room, many other branches must be learned in the laboratory. We have had the dissecting room—that is, the laboratory of anatomy—for centuries; we must have now laboratories for a dozen other subjects. From this time on progress in medicine has advanced by leaps and bounds.

It is true surgery had made a distinct advance as early as 1842, when Dr. Crawford W. Long, of Athens, Ga., removed a tumor from the neck under the influence of an anesthetic. Just what was used as an anesthetic in this case I do not know, but to Dr. Morton, of Boston, belongs the honor of introducing ether as an anesthetic in dental work, and in 1847 Sir Jas. Y. Simpson, of Edinburg, first introduced chloroform in general surgery—one of the greatest boons to suffering humanity. It was not so very long after this until Pasteur, the eminent French scientist, through his studies in biology realized that infectious diseases were due to a minute organism to which he gave the name bacteria. A few progressive and able men grasped the full importance of Pasteur's discovery and it dawned upon them that preventive medicine was destined to become one of the highest callings to which man could devote his brain and consecrate his life.

It was said that Prof. John K. Mitchell, of Philadelphia, with the intuition of the poet, had claimed, way back in the early forties, that infectious diseases were produced by these minute organisms, or germs, but he was unable to prove it. The evidence of the existence and power of minute organisms was furnished by Pasteur, but the germs of suppuration, or matter, were not discovered by Ogston until 1881, and one year later Prof. Koch, of Berlin, discovered the active and hardy bacilli of tuberculosis. Just a few years prior to these latter discoveries, a Scotch surgeon, Lister, by name, applied himself to the study of Pasteur's views and had come to the conclusion that these microscopic organisms were responsible for many unfavorable changes in wounds, and he sought to prevent the entrance of bacteria into wounds by what he called antisepsis. But the profession was slow to believe. It was slow, also, in believing Pasteur's views.

The general attitude of the profession then, as now, was skeptical regarding the acceptance of theories so antagonistic to the general trend of thought, and authoritative statements had little weight, even though ancient and bearing the seal of honor. The ability to see things as they are, and to draw accurate conclusions from them is placed above all else. But if, as has been said, the profession of that day did not receive the views of Pasteur and Lord Lister as authoritative, certainly the one of to-day does.

Solomon, in all his glory and wisdom and power, never wrought so marvelously as did either of these in their respective fields of labor. An-

tisepsis has made possible most of the surgery of the brain, the chest, the abdomen and its contents, the heart, the blood-vessels and the nerves.

Statistics show us that it has lessened the mortality of major amputations, more than 50 per cent., and of compound fractures of the long bones from over 50 per cent. to under 1 per cent.

It has practically abolished the so-called blood-poisoning as a sequel of surgical operations. Forget Pasteur and Lister? Never! These two names will live in the minds and hearts of the people for ages to come; they are written broad and clear on the pages of medical and surgical progress; they laid the foundation for the new temple of scientific medicine and surgery which has aroused the enthusiasm of scientific men throughout the wide world.

The chief, and one might say, the only aim of the physician at this time was to cure disease; or, rather, to assist nature in the doing of it. Their whole time, talents and energies were devoted almost exclusively to that end. Prophylaxis, or the prevention of disease by remedial measures, was little thought of. If, perchance, a contagious or infectious disease should develop in a community, no prompt or active measures were taken to prevent its spread. The attending physician would, in most cases, advise the patient to keep to his bed, and warn visitors or curiosity seekers to keep their distance. Such a thing as strict quarantine was rarely thought of. Disease was looked upon as one of the necessary evils, an "enemy and curse to humanity" that had to be met and grappled with, though battling in the dark.

Do you wonder, then, that more was not accomplished in the way of successfully treating disease? You must bear in mind that in order to be successful in the warfare against disease, one must know the cause of each particular ailment one is called upon to deal with, else the tide of battle is very likely to go against you. And this *lack of knowledge as to cause of disease* has been the chief stumbling-block to progress in medicine and surgery.

The germ theory as advanced by Pasteur, Koch, Ogsten, and others, constitutes this new era of medicine and surgery to which the door of knowledge has been unlocked, flooding our pathway with a new light that shines with exceeding luster. It is now known that these germs, or bacteria, constituting, as they do, the chief causative factor in disease, are of different varieties—certain kinds corresponding to certain diseases, or, to be more specific, certain microorganisms that find entrance into the body evolve a toxin, or poison, that produces a certain disease in the body. The question of etiology, then, is no longer *subjudice*. Most fortunate, too, that such is the case, for, to have observed silence much longer regarding its position and accomplishments, the medical profession would have been in a position bordering on embarrassment.

The great barrier, however, has been removed, so let us press forward and, by way of digression, permit me to call your attention to a matter that has, for a considerable length of time, burdened my mind.

I refer to a closer relationship with the public. The gulf separating profession and lay is too wide. In the days (now happily gone by) when superstition was handmaiden to ignorance, an insuperable barrier between the two seemed necessary, for, how was it possible for the physician to conceal his own ignorance if he did not succeed in keeping his clients in the dark? There is no question but that the medical profession has been tinctured too strongly with occultism. Let us cast it aside and take the public into our confidence. Education along certain lines, has been confined too much to the ranks. It is the pabulum that builds up civilization and no advancement of a permanent nature will ever be made until the people at large be told the truth.

The public asks for no technical education or training—it has neither the time nor inclination in that direction; but the people should be enlightened to the extent that their health and happiness depend to a great extent on their intelligent coöperation with the profession; they should receive instruction along lines of hygiene and sanitation; be taught the value of pure food, pure water and pure air; be enlightened as to the hygienic inportance of bathing. The public should know and ought to appreciate the fact more than it does, that contagious diseases can, to a great degree, be prevented by proper sanitation and medical school inspection. There are many other ways of educating the public, but this is neither the time nor place in which to do it.' I only make mention of the subject because of its growing importance.

The development of preventive medicine has greatly added to our responsibilities. We not only soothe the afflicted and alleviate human suffering, but we also seek to prevent disease, making us more than ever servants to the public. As a matter of absorbing interest to many, permit me to enumerate what has been done by way of progress in the cure and prevention of some diseases. Most of you, no doubt, are familiar with the history of smallpox. Formerly considered one of the most loathsome and fatal of diseases, what is it to-day? Almost entirely shorn of its horrors, it is no longer dreaded, and to hear of a death from smallpox is rare, indeed.

Of three epidemics of this disease in my home town since 1900 all were of so mild a nature and so modified in character that we local doctors had difficulty in convincing those who were familiar with it in the earlier days that it was smallpox.

Had there been less antagonism to vaccination and people had submitted more cheerfully to quarantine, and carried out more faithfully hygienic and sanitary laws, I question if there would be a case of smallpox in this whole country of ours to-day.

To whom are we indebted for this great boon to humanity? To none other than the immortal Jenner, of England; the man who was villified, degraded and cast into prison for the awful crime (?) of being a benefactor to mankind. Such is history. Rabies, or hydrophobia is described

as a specific, infectious disease, peculiar to certain animals, but may be communicated to man by direct inoculation. It is, beyond question, one of the most terrible of all infectious diseases, and the particular germ that causes the development of hydrophobia has not yet been discovered; but we need not despair of welldoing; a Moses will yet rise up and lead us out of the wilderness. We do know that after a person has been bitten by a rabid animal, it requires about six weeks for the disease to develop, and, when fully developed, the unfortunate victim suffers the most horrible agony, after which the paralytic stage supervenes. Unconsciousness is ushered in without convulsions, then death ends the scene.

Although there is, as yet, no known cure for hydrophobia when once the disease is fully developed, let us be thankful for a preventive treatment that will do much.

It was about the year 1885 that Pasteur gave to the world his method of preventive treatment, which consisted in making hypodermic injections under the skin of a virus which he prepared from the spinal chord of an inoculated rabbit. Other methods have from time to time been tested, and some of them proved to be more practical than his. All of them, however, are nothing more or less than modifications of Pasteur's method. The old adage that "an ounce of prevention is better than a pound of cure" was never more pertinent than in the case of hydrophobia. Instead of running all over the country in search of a madstone, as was formerly the case when bitten by a rabid animal, the victim now hies himself to the nearest Pasteur Institute and receives intelligent vs. faith treatment. Had Pasteur made no other discovery, nor devised any other treatment than this preventive treatment for hydrophobia, he would, undoubtedly, be one of the greatest benefactors to humanity.

There are several Pasteur Institutes not only in this, but in other countries where this preventive treatment is given, and the results have been very satisfactory indeed. The chief difficulty, however, is the enormous expense of treatment, and the long distance and cost of transportation to and from these Institutes. It is to be hoped that this difficulty will, as well as the cost of serum, in time, or in some way, be overcome.

Another dread disease, the mortality of which is appalling, and for which, up to the present time, at least, all curative measures have proven unsatisfactory, is that of tetanus or lock-jaw. An insignificant splinter, or a thorn in the hand, or a rusty or dirty nail in the foot, may be the starting point; or, if you please, a wound on the hand produced by one of those innocent looking toy blank cartridge pistols. Now, most of the wounds resulting in lock-jaw, are what we call punctured wounds, and the instruments that produce them are dirty; and, more than that, the point of entrance (usually hand or foot) is also dirty; making it a very easy matter for dirt to be carried into the wound. When we know that dirt or filth is the natural habitat of the tetanus bacilli, we can readily understand how tetanus or lock-jaw can develop from a punctured wound.

This death dealing bacillus was discovered by Nicolaier, but the Japanese physician Kitasato was the first to obtain it in pure culture.

This disease was formerly considered incurable after having reached the stage of full development. Even now, the results of treatment looking to a cure have not been satisfactory. A very few cases treated by the intraspinal injection of magnesium sulphate were reported cured, and the use of Behring's antitoxin has reduced the mortality about 15 per cent. On the other hand, the results in preventive treatment have been highly satisfactory. There is the best of evidence that, given a high grade of antitetanic serum, and begin treatment not later than 24 hours after infection, lock-jaw will not develop. As an example of the potency of serum treatment, I will mention that of Beneva, Switzerland, where 700 prophylactic injections of Behring's serum were given with but one case of lock-jaw. Hospitals and clinics all over the world give most encouraging reports of serum treatment in preventing the development of this disease.

Nor is this all. There are many other wounds as well as punctured wounds which, while not necessarily foci for the tetanus bacilli are, nevertheless, an open sesame for the introduction of other microorganisms whose virus is a bloodpoisoner, only of a different nature. Any accidental wound may be the starting point, or, it may develop from purposely made wounds, as in surgical operations. Ordinary bloodpoisoning is much more common than that which produces lock-jaw. Years ago and prior to the discovery of antisepsis by Lister, it was much more common than it is now; in fact, it was the surgeon's bug-a-boo, but the wonderful discovery by Lister of antisepsis has inaugurated a new era in surgery, and no operation is so difficult but what the surgeon will undertake it with confidence and with the satisfaction that he is master of the greatest dangers which threaten the patient's life—hemorrhage and infection.

I now turn to a disease that cannot but be of profound interest to many of you now present, for it is one of those afflictions so very liable to enter any family circle and by its ravages carry away those who are the light of the household. Although a disease of childhood, those who have reached adult life are not altogether exempt. I refer to diphtheria, an acute, infectious disease that develops in from 2 to 5 days after the subject becomes infected.

An attack, instead of rendering the individual immune, increases the liability to subsequent attacks. Like other infectious diseases, diphtheria is caused by a particular germ, the Klebs-Lœffler bacilli. The death rate of this disease prior to 1900 was nearly 50 per cent.; now it is about 20 per cent., or a decrease of over 50 per cent. since the introduction of antitoxin.

There is no question but that this remedy will not only prevent the development of diphtheria, but will cure the disease if the patient is not too near death's door at the time treatment is begun. Given a reliable

serum and use it early and always under strict antiseptic conditions, the death rate should be nil.

The bubonic plague, a disease indigenous to the tropics, and which at different times has raged in the form of rapidly spreading epidemics along the highways of travel, is loathsome and very fatal, destroying its victims by the thousands. We, of this country, knew but little about it, and had no occasion for alarm until about 1900, when it appeared on the Pacific coast. The first sufferer was a Chinaman who died after a brief illness. Since his death, a number of others have been stricken and died. In the year 1907, between May and November, there were 109 proven cases. Just what the future has in store for us I am unable to say, but with our present close relation with those countries where plague is always in existence, we stand facing a very weighty problem. We are indebted to Mr. Haffkin, a Russian scientist, more than to anyone else for preventing the spread of this terrible disease. He brews a serum, the daily injection of which will prevent the development of plague during an epidemic. Its potency is firmly established.

One other disease, almost universal in its scope, and the effects of which are familiar to many of you now present, is malaria. Nothing, you might say, was known of its cause until the year 1880, when Laveran discovered in the blood of patients suffering with this disease a parasite or germ which he called plasmodium malaria. Supplementing this discovery was that of Ross in which the source of infection was traced to mosquitos of the species anopholes. It is much easier now to understand that which, prior to these discoveries, was difficult of solution, viz.—that malaria prevails in those localities inhabited by this particular species of mosquito, and, too, during the seasons when they are the most numerous, spring and autumn. Being familiar with these facts, our duty in the matter of stamping out malaria was plain,—not only treat the disease as in former years and thereby effecting a cure, but, in addition to that, make everlasting war on the mosquitoes, kill them off and destroy their habitation or breeding places; then there will be no malaria to cure. We all know that quinine is a specific in the cure of malaria, but when it is possible to prevent the development of a disease, I feel sure that you will agree with me that the latter course is the proper one to pursue. That is the course the profession has been, and is now, pursuing all over the world, and the public at large has, to a considerable extent, been doing the same thing unconsciously, however, by draining off cesspools and low lying marsh lands that serve as breeding places for these disease purveyors, and converting them into fertile fields of grain that make for life and health rather than sickness and death. The results certainly justify the means, and there is no better example that I can point you to than in our own Mississippi valley. Prior to, we will say, 1885, this section of country was malaria ridden, and the mortality from this disease, both directly and indirectly was very high. It was rare, indeed, to find an individual who had not at some time or in some way experienced the

toxic effect of this malady. Some had their daily shake, some "every other day," and some every fourth day or "quotidian type." Another was called the "dumb ague," in which the patient did not shake, but experienced the cold stage in lieu thereof. Still another type went by the euphonious title of "pernicious intermittent fever" or, more commonly "congestive chills." You rarely hear these terms used any more. What, at one time, was common is now uncommon. Malaria is almost a thing of the past, but, lest we forget, permit me to quote a historian's graphic description of the decadence of ancient Rome. He says: "To-day, as is known, malaria is the scourge of the Hellenic peninsula. Endemic throughout the land, it saps the vitality, the strength, the virility of the people, carrying away, annually, its thousands of human lives. Through the shadows of departed years the light of ancient Greece shines with undying luster. The language, the poetry, the art, the philosophy, the ideals, the spirit of beauty, have been for ages and are to-day the inspiration of mankind. The sounding hexameters of Homer, the breath of Him, Aeschylus, ancient of days, whose word is perfect song, the creative genius of Phidias, the eloquence of Demosthenes, the wisdom of Pythagoras, of Socrates, of Plato, of Aristotle, beckon across the centuries to remind us that all the wealth of modern world has given birth to no loftier thoughts, to no higher ideals of life and beauty than those which sprang up by the waters of the blue Ægean. And to-day Pallas Athene dominates the elect of the world. The garners of Sicily are empty now, but the bees from all climes still fetch honey from the tiny garden plot of Theocritus." There is no trace of the literature of the early days of Ancient Greece, of the scourge which has since laid waste the land. But step by step with the spread of the disease which first made its appearance about 400 B. C. the historian traces the beginning of that fatal degeneracy which marked the fall of the race. A spirit of criticism, of jealousy, of pessimism, arose; discord, dissensions and civil strife followed, and in a few centuries the earthly abode of the gods was a mere tributary of the Roman Empire. Poisoned by the subtile influence of a preventable disease, the spirit which had produced the science, the beauty, the art of Ancient Greece faded from the world.

Soliloquizing, it seems strange that Greece, with all her boasted accomplishments in the arts and sciences could not, as it were, produce a Pasteur, a Laveran, or a Koch, to point her to a way of safety. By a similar process of reasoning, why should not we, in our own country, honor, more than we do, such names as Finley, Welch, Kean, Guiteras, Lazear, Agramente, Carroll, Reed, and a host of other medical men who are devoting their whole time, their talents and energies solely in the interests of science and humanity?

Two of those whose names I have just mentioned, Lazear and Carroll, submitted themselves on the altar of science to prove that a certain species of mosquito was the carrier of the infecting agent that produced yellow fever, and lost their lives. Surely no one can point to a greater

sacrifice, or one more worthy of high praise. As an example of modern methods dealing with disease, let me point you to what has been done on the Island of Cuba. On account of the heavy rainfall, tropical heat and indifference and ignorance on the part of most of the inhabitants, the island has been a hot-bed of malaria, dysentery, typhoid fever, tuberculosis and yellow fever. If there were any sanitary laws, there was little or no effort on the part of officials to enforce them, and, as a result the mortality was high. It has been demonstarted only too often that general laws in themselves, are insufficient to prevent the spread of infectious diseases. It can be done only through the cordial and general cooperation of an enlightened public with the medical profession, and, even then there are cases, it seems, in which the law must be invoked. In Cuba, the medical corps of the U. S. A., cooperating with local physicians, assumed control and, if reports count for anything, they certainly had their hands full. Yellow fever and the cause producing it was the chief enemy of attack. Every case, or suspected case of yellow fever was reported at headquarters, and every house, building or hovel that contained a case or even a suspected case of fever, was promptly quarantined, fumigated and enclosed with proper netting. Every mosquito inside these premises was killed. All trenches, low lying marshy spots, and pools of stagnant water, that served as breeding places for mosquitoes, were drained off and the ground broken up. The result of this crusade was that in seven months the disease was entirely banished from the city of Havana. It required only a little longer time to rid the whole island of yellow fever, and the death rate from other diseases has been greatly reduced as a result of this war on disease and disease purveyors.

It was formerly necessary to quarantine all ports of entry to the island at certain seasons of the year on account of this yellow fever epidemic, but that is now a thing of the past. Sanitary officials, however, should not for a moment relax their vigilance, nor should the general public be neglected in the matter of education along sanitary and hygienic lines. Another example of the results of scientific endeavor and I will have done.

I refer to the herculean task undertaken by the United States government in the digging of the Panama Canal. Many of you now present probably remember how the French Government, with De Lesseps as chief engineer, endeavored to accomplish the same task and made such a dismal failure. This failure on the part of the French was not due to a lack of funds, nor to a modicum of energy or of mechanical skill. The French are energetic, if anything, and are noted the world over as possessing mechanical skill of a high order. What then, you ask, was the cause of their failure?

The answer is, nothing so much as the dreadful and continued mortality among the laborers, particularly the ones who were imported. It is true there was considerable fraud, dishonesty and embezzlement practiced, and it did much to bring about De Lessep's failure. But these factors

have been, to a great extent lost sight of in comparison with the hopeless unhealthfulness of the Isthmus. The terrible scourges of yellow fever at certain seasons, the blighting effect of malaria in all its various forms; the ever present white plague that makes continual call on the grim reaper; the filthy labor camps; pioneer life and hardships incident thereto, were too much for the French and their efforts were in vain. Up to 1902, the canal zone was considered the unhealthiest spot on the face of the globe, having no rival in that respect. Another has said, "it has been looked on as a vast grave yard for those not indigenous to the soil who have gone thither." Froude declared, in that superb English of which he was so great a master, that "nowhere on earth was there concentrated in a single space so much foul disease, such a noisome mass of moral and physical abomination."

This is certainly a most grewsome picture and yet one that could not be successfully controverted. To-day we find yellow fever driven from the Isthmus; malaria, pneumonia, typhoid fever and other diseases of high mortality, greatly reduced, and a high average of health established. Col. Gorgas, of the United States Army and his associates in medicine have made it as healthy and as infection free as any country in the world. The last case of yellow fever occurred in Panama about two and a half years ago.

During 1907, Col. Gorgas did not have a single case of bubonic plague to deal with and in that year he had but one death from smallpox. His death rate in 1907 was 31 per cent. lower than that in 1906. To sum up, he had during the month of March, 1907, 36,000 employees under observation, with 122 deaths. During the corresponding month of this year, he has supervised 43,000 men with only 45 deaths, the mortality being less than that of New York City. Among those who know the situation, there is no doubt but that the canal will be completed within a few years. Modern civilization furnishes no better example than this of possible victory over pestilence and disease, when the warfare is carried on in the light of modern scientific knowledge.

And this is progress, "triumphal progress"—as one of our number, so recently called to his reward—put it. We glory in what has been accomplished so far in protecting mankind from the ravages of disease, but we have only made a beginning—a skirmish preceding a long and continuous campaign; a succession of fierce combats with the causes of infection and contagion. Mistakes have been made as well as triumphs obtained; let us learn from both.

Our calling is just what we make it. Let us see to it that it is used to the best advantage for all; let us strive for unity of action and harmony of thought; let us suppress as a venomous reptile any one who would breed contention, conflict and hate, and, above all, let us have enthusiasm. "Enthusiasm is the motive force of all progress. Nothing of any real consequence was ever accomplished without it. It took Cook to the Southern seas; it lured Gama around the Cape; it called De Haven

to seek for Franklin in the awful solitude of the frozen North; and it beckoned Columbus across the ocean from Palos to the Indies. Because of it, the explorer tracks the dusky canon, and the hardy miner 'bleeds the veins' of the mountains; the navigator seeks the Northern Pole, and the student prints on his face the unobliterable lines of thought.

"It carved the Belvidere Apollo, and it painted the Sistine Madonna. It struck fire from cold flint and it saw in the steam wreaths from a teakettle a force greater than that of all men in the world united. It bridged the Hudson, and laid the gleaming steel of civilization on the summits of the mighty Rockies; it took signals under the ocean; it carried messages through the air; it stored up speech in reservoirs, and it harnessed the lightning to serve man's purpose." It was enthusiasm that solved the problem of aerial navigation; "it discovered the ligature; it introduced vaccination and anesthesia, and it laid the gentle hand of healing on the wounds of humanity through antiseptic surgery. We note its presence in the aphorisms of Hippocrates, in the demonstration of Newton and in the discourses of Pasteur. It was with Alexander in the field as he conquered the world, and with Plato in the grove as he founded philosophy.

"It was by the lonely camp of Celsus, and behind the sightless eyes of Galileo. It was on the battlefield with Paré and with Larrey," and in the laboratory with Welch and Leidy, with Boston and Flexner. It was in the hospital with Gross and Agnew and McBurney and Senn. It stimulated the labors of Washington and Cromwell, of Shakespeare and of Franklin, and it lit the councils of Caesar and of Lincoln, of the great Napoleon and of England's 'Grand Old Man.'"

May we feel it; may we realize it; may we be driven by this divine fire!

MALARIAL INFECTION IN CHILDREN.*

By Scott P. Child, M. D., Kansas City, Mo.

During the months of July, August and September, 1908, out of seventy patients treated in Mercy Hospital, Kansas City, there were diagnosed by the demonstration of the organisms in the peripheral circulation five cases of malaria, occurring in children between the ages of seven and sixteen years, with a mortality of 20 per cent. Three other cases gave clinical evidence arousing suspicion of malaria, but during the time they were under observation their blood at no time revealed the

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plasmodia. During this same period there was only one case of typhoid fever in the hospital.

Of the five cases of malaria one was a pure tertian, three æstivo-autumnal and one a mixed infection of tertian and æstivo-autumnal. The æstivo-autumnal cases were chronic in form and revealed in one or more instances, a blood picture of true pernicious malaria.

The histories of these cases, their hematology and symptomatology during observation, and their course under treatment with delayed diagnosis from blood findings, afford a justification for the presenting of this material, which is given in the form of case reports:

Case I. Lawrence Hart. (Service Dr. Jerowitz.) Aet. 7. Entered hospital September 25. Discharged October 6. History negative save for present acute illness. Examination of peripheral blood revealed a pure infection of the tertian parasite. Hypodermic injection of the hydrochloride of quinine and urea caused an immediate cessation of the chills and a disappearance of organisms from the peripheral blood. The injection was unattended by any pain or any subsequent inflammation or necrosis.

Case II. Berna Bright. Diagnosis—Mixed infection of tertian and æstivo-autumnal malaria. Aet. 15 years; employed in box factory in Kansas City, Mo.; lived at Boys' Hotel; came to city June 1, 1908, from Independence, Kansas, one mile from river. In July was camping for several days on the banks of the Indian Creek, ten miles south of Kansas City. Family and past personal history negative.

History of illness: Patient entered hospital on Friday, August 28th, having a chill at 12:30 p. m., followed by rise of temperature and subsequent free sweating. Gave history of typical paroxysms on the preceding Sunday at 6:00 p. m., and on Tuesday and Thursday at 11:00 a. m.

Physical examination, on the 29th, revealed a well nourished and normally developed lad complaining of intense headache. Lingual temperature was 102 F.; body surface very dry; forearms, hands and legs were mottled with large areas of ecchymoses; eyes suffused and dull; lips dry, with herpes; teeth covered with sordes; tongue only slightly coated and tremulous. Radial pulse 88, regular, fair tension; feet and hands cold; heart and lungs negative; liver normal as to size and absence of pain. The spleen was enlarged both to percussion and palpation, extending well below border of ribs; slight tenderness was elicited on pressure of spleen, as well as over general abdomen. Tympanites was absent; intestinal and renal secretions were negative.

From a periodic standpoint the paroxysms observed were quotidian, occurring at about the same hour for three days; the highest temperature attained was 104 and 2-5 degrees; prostration and headache were marked during height of fever; herpes labialis persisted throughout illness, gradually disappearing on reduction of temperature; the pulse

though of fair volume became very slow, going as low as 50, and standing at 58 on discharge.

Blood analysis and treatment. On the 29th, the day following admission to hospital, an examination of the peripheral blood demonstrated the presence of the tertian malarial organisms alone, active and in abundance. Under quinine sulphate, gr. xv. by mouth, daily for two successive days, during low morning temperature, the tertian organisms disappeared. A paroxysm occurred however on the third day, with temperature more than two degrees lower than the day preceding, the peripheral blood then revealing a pure infection of the æstivo-autumnal crescents; no tertian forms being demonstrable. The mixed infection was verified by careful re-examination of the smears, by both Drs. Castle and Brewster of Kansas City. It is quite probable as suggested by Dr. Castle that this was a case of "tertian engrafted upon a chronic æstivo-autumnal."

The subsequent treatment was a gradual decrease in dosage of the quinine sulphate, by the mouth, every six hours for three days; then nightly doses of ten grains for a week. On discharge of patient ten days after occurrence of the last chill and sixteen days from the date of first recognized paroxysm he was free of all symptoms, and his peripheral blood for several days had shown no malarial organisms. Some two months subsequently patient was seen, having had no symptoms referable to malarial infection in the interval.

Case III. Layman Hobson. Diagnosis—Chronic æstivo-autumnal malaria. Aet. 10 years, from a farm at Benton, Missouri, some 17 miles north of Kansas City. Family and personal medical history negative. Entered hospital on September 8th, 1908, with a temperature of 99 degrees, stating that he had been ill for two or three weeks, having had chills every two or three days, the last chill having occurred on Friday, September 4th.

Physical examination revealed a poorly nourished child complaining of no pain or discomfort, with a general skin surface of a peculiar saffron, waxy hue. Crusts on both lips on admission said to have been preceded by ulcers of previous week; probably herpes. Examination of lungs, heart, kidneys and liver negative. The spleen was enlarged to percussion and palpable below border of ribs on deep inspiration.

Blood examination. On admission hemoglobin was 50 per cent., Talquist scale; erythrocytes 3,800,000; leucocytes 3,800; numerous macrocytes and microcytes; megaloblasts and a polychromophylia. This picture persisted for some time, and early brought up a possible diagnosis of a true pernicious ænemia in the inability to demonstrate malarial organisms.

The temperature remained practically normal until the 17th of the month, when it ascended without chill to 101 degrees; on the 18th to 102 degrees, and on the 19th, preceded by a severe chill at 2:00 p. m., to 105 degrees; the blood then revealing numerous æstivo-autumnal organisms in crescent form.

In the interval of low temperature of the 19th, quinine sulphate, gr.

xv., were given by the mouth. A paroxysm, with temperature rising again to 105 degrees, at 2:00 p. m., occurred on the succeeding day. The temperature remained high, above 103 degrees for nine hours, then gradually descended to 95 degrees per lingua, with a pulse rate of 52. Quinine sulphate gr. xv., with dilute hydrocholoric acid, were administered on this day when temperature had reached 99 degrees F. No recurrence of paroxysms, nor rise of temperature followed the second observed chill. The temperature rose slightly, but remained subnormal, 96 to 98 degrees, for nine days, with an associated weak, irregular and slow pulse running from 52 to 72. Then the pulse and temperature became more regular, and on discharge on the 24th of October, they stood respectively at 80 and 98 degrees. No plasmodia were discovered in the peripheral blood at this time, and the general blood picture showed improvement.

Cinchonism followed both large doses of quinnie, but with no serious results. At intervals pain was complained of in splenic region on deep breathing.

Case IV. Dewey Gordon. Diagnosis, chronic æstivo-autumnal malaria. Aet. 10; father has pulmonary tuberculosis. Previous personal medical history negative, save that for past year has had a persistent dry cough. For two or three weeks previous to admission, July 25th, had been having a recurring temperature arousing suspicion of typhoid, and in view of father's illness a question of possible tuberculous infection.

Physical examination on admission revealed a pale, emaciated lad with prominent eyes and wan expression; thinly coated tongue; herpes labialis; an absence of enlargement of nuchal and submaxillary glands. On the right side of chest at the junction of second rib with the sternum a marked bulging existed, but without other local signs; ausculatory and percussion signs over lungs and cardia were negative; abdominal signs negative save for percussable, palpable and slightly tender spleen; renal findings negative. Subjectively, patient complained of slight headache, with pain and extreme weakness in muscles of extremities.

Blood examination. On admission the blood gave a percentage of 60 per cent. hemoglobin, Talquist scale; a negative Widal reaction and no evidence of malarial organisms. For a period of some six weeks, the patient being on tonic treatment and extra nourishment, but with no specific medication, no distinct chill was observed though there were one or two short intervals of chilliness. Several searches for plasmodia in the peripheral blood failed to demonstrate them. The temperature varied from 96 and 4-5 to 102 and 2-5, but without hourly or daily periodicity. During this interval general improvement was noted in patient, the herpes disappeared and the spleen reduced in size. On the 5th of September, however, the child went to bed with a subnormal temperature complaining of chilliness and the spleen was found markedly increased in size and decidedly tender. An examination of the peripheral blood at this time showed large numbers of active crescents of the æstivo-autumnal organisms—and this the first time demonstrated. The temperature remained

low and mostly subnormal from this time on until discharge, rising once to 99 and ⅕ degrees F. without any periodicity.

Treatment. This was instituted as soon as the organisms were demonstrated. Quinine sulphate and dilute hydrochloric acid had no effect in lessening activity or numbers of crescents, so hypodermic medication of hydrochloride of quinine and urea, deep in the tissues of the gluteal regions, was resorted to on September 7th. The first course consisted of hourly doses of six grains each until 24 grains were given. The blood examination the next day revealed no apparent impression on organisms. Hence a second course, of eight grains every hour until six doses were given, was resorted to on the 9th and the 11th of September respectively. This was associated with a lessening in the activity and a contraction of the crescents and slight reduction in number, but not their destruction. Quinine sulphate was administered by the mouth for a considerable interval thereafter and the gradual reduction in number of organisms led to the hope that the profound infection was controlled. But on the 26th of the month large active crescents were plentiful in the peripheral circulation and apparently multiplying. Save for slight nausea and dizziness the previous hypodermic injections had produced no unpleasant symptoms, and it was decided to resort to larger doses of the urea and quinine, and accordingly twelve grains were given every hour for six doses. This caused a disappearance of the organisms from the peripheral circulation, an improvement in the general symptomatology of the patient and a reduction in size of spleen. On his discharge, October 3rd, no organisms were found in the peripheral blood. The subsequent history would indicate no recurrence, up to date.

Case V. Sadie Graham. (Service Dr. Jerowitz.) Diagnosis, æstivo-autumnal malaria. Aet. 13, from Sheffield, a suburb of Kansas City on the banks of the Blue River. Came to Mercy Hospital on the 22nd of August, in a semicomatose condition, with a provisional diagnosis of typhoid fever. A brother, 10 years old, died on the day previous, of supposed typhoid; father also ill. The patient presented a most anemic and cachectic appearance, the skin had a peculiar greyish-brown tint, was profoundly ill, with a tembperature of 103 degrees; pulse 154, very irregular and weak. The pulse growing increasingly weak, played from 140 to 160, though at times too feeble to note at wrist. With a temperature rising daily from 103 degrees to 106 degrees, unconscious or delirous a greater part of the time and with no response to specific medication, she died on the 28th day of the month, the sixth day following admission. The renal analysis was negative. Quinine per mouth and hypodermically was without effect.

For the following blood analysis and autopsy findings I quote from Dr. Castle's comprehensive report:

Hemoglobin	15%, Talquist and Dare's scales.
Erythrocytes	1,300,000.
Leucocytes	6,000.
Widal	Negative.

Stained film showed many macro and microcytes with some poikilocytes. Normoblasts noted. About 60 per cent. of the erythrocytes were infected with "signet ring" forms of the pernicious malaria organisms, 1 to 7 organisms in a red corpuscle. No sexual or crescent forms of malaria plasmodium found.

Autopsy done by Dr. R. B. Brewster, 8 hours following death. The main cut was remarkable for the almost absolute dryness of all tissue. Not until thorax was entered did a drop of pale blood flow. All viscera very pale. Lungs showed some atelectasis, otherwise negative. Heart showed some brown atrophy.

Liver and spleen not enlarged. Spleen of a peculiar bluish-lead color, and of soft consistency, Malphigian bodies not plainly marked. Genitourinary organs negative. Vertebral and sternum bone marrow dark red. Smears made from spleen, liver and bone marrow. Tissues fixed in formalin, methyl alcohol and Funker's solution.

Microscopic findings: Much melanin in spleen and liver, also in lungs, kidneys and bone marrow. Pigment intra- and extracellular. Hemosiderin in liver and spleen. Bone marrow showed enormous increase in normoblasts, *i. e.*, reaction to anemia. All lymphoid tissue in gastrointestinal tract and mesenteric regions showed marked hyperplasia. In omentum were noted some encysted parasites, the exact nature of which has not been determined.

In summarizing microscopic findings there is to be noted:

1. The profound ænemia.
2. The marked reaction of hematopoietic system.
3. The pigment of blood destruction, hemosiderin and melanin; the former giving iron reaction, the latter not.
4. The encysted parasites.

In reviewing these cases certain characteristic symptoms impress the observer, *i. e.*, herpes, headache, frequent micturition, languor and absence of local pain. Anemia was marked in all of the æstivo-autumnal cases and suggested a true pernicious variety in two of them. Typical paroxysms present in the tertian, but not in the æstivo-autumnal type. During relatively long periods in the chronic forms the peripheral blood failed to reveal the organisms, though when appearing later did so during low and subnormal temperature.

In the chronic æstivo-autumnal cases, sudden changes in size and tenderness of spleen occurred with accompanying change in number of parasites in peripheral circulation. This not necessarily accompanied with rise of temperature or typical paroxysms.

During low temperature and convalescence in both tertian and æstivo-autumnal malaria a slow pulse is noted. Since quinine physiologically lowers the heart rate, this would naturally be expected, but it is quite probable that the removal from the circulatory stream of the organisms as an active irritant plays some part in this symptom.

The blood and autopsy pictures demonstrate clearly the great destructive power malarial organisms have over animal tissues. The corpuscular elements of the blood are absolutely reduced in number and destroyed and strive hard to replace themselves, as shown in the various forms assumed by the red cells and the phogocytic action of the leucocytes. Bone marrow, liver, spleen, and kidneys all show change due to presence of parasites, and the glandular and lymphatic systems in general undergo change indicating their struggle to protect the system.

The use of the hydrochloride of quinine and urea demonstrated its value, its safety, less marked cinchonism, and, under careful antiseptic precautions, an entire absence of unpleasant results following its hypodermic administration. In my own cases I used the deep injection into the gluteal muscles, after thorough sterilization of the skin surface and the subsequent protection with cotton and collodion. No sloughing, suppuration, necrosis or long persisting induration followed, nor was pain complained of at any time.

603 Bryant Building.

OCULAR EXAMINATION AS AN AID TO PROGNOSIS IN OTITIS MEDIA SUPPURATIVA.*

By Dr. W. Emil Klokke, M. D., St. Louis, Mo.

I am led to believe that physicians doing a general practice do not seriously regard a discharging ear. Only the other day a physician of good education, lightly dismissed such a case in his own family saying in answer to my queries, "it was nothing, it got well within a few days with peroxide syringing." Is he watching to see the result of such syringing on the ear of his child?

After complete or partial loss of the membrana tympani, we have more or less constant discharge. For a time such cases may show a dribbling discharge, particularly in the morning, or every few days a trace of moisture is found in the canal. This may be all the patient notices for years. Then the case is presented to the physician, possibly first on account of the eye symptoms, or intracranial symptoms, or both. He finds a disease which has slowly yet surely been working to break down the barriers in its path to the brain. It is often difficult to determine the extent of the invasion. Is it still a superficial process? Has the bone been eroded? Are there pressure symptoms? Does there exist deep necrosis

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of bone with the probability of sinus trouble, and involvement of adjacent sinuses or subdural, cerebral or cerebellar abscess?

The solution of the problem will be easier if we take into account the ocular as well as the aural signs, and the prognosis based on the information thus gained will be more accurate. We can better estimate beforehand whether, in addition to a radical mastoid operation, we must be prepared to open the labyrinth or seek the site of a subdural or cerebral abscess, or deal with a sinus thrombosis, with or without petrosal or cavernous involvement.

After the radical mastoid operation many patients develop symptoms of sinus trouble within twenty-four to thirty-six hours; and a sinus operation is then undertaken, very frequently with a fatal result. I believe in watching closely the ocular signs, which when present may inform us when to open the sinus, or may give us an idea of the extent of a sinus thrombosis. When one feels a sense of surgical safety he is then in great danger of doing the wrong thing. For instance, it is decidedly improper to open a labyrinth when no pus infection exists. Many cases of labyrinthitis serosa, which only have swelling of the lining membrane with an outpour of serum, give rise to certain pressure symptoms which will promptly disappear after the Stacke-Schwartze operation. Now, where through fistula of the labyrinth, or necrosis, a meningitis, exists, we should seek all possible sources of information and should bear in mind the possible ocular as well as the aural signs. Most satisfactory indeed is the otologists' method of diagnosing labyrinthine diseases, *i. e.*, production or nonproduction of nyastagmus in examination of the labyrinth is performed in three ways. Normally we find:

1. Rotating the patient to right—nystagmus to right.
   Rotation continued—nystagmus stops.
   Rotation stopped suddenly—nystagmus to left.
2. Pressure or suction.
3. Caloric test—Injection of warm water 120°F., nystagmus to same side.
   Injection of cold water, 65° F., nystagmus to opposite side.

These tests give us evidence of an erosion, or complete destruction of the labyrinth. It should be added that cerebellar abscess or tumor may show a spontaneous nystagmus of the affected side, or an insidious form of meningitis, *e. g.*, the tuberculous, may also evoke this phenomenon. Additional diagnostic aid may there be sought by investigating the ocular signs. The ocular complications of meningitis include: Xerosis cornea, suppurative irido-choroiditis, central scotoma, and papillitis. Papillitis is the most common ocular complication in extension to the brain of otitis media suppurativa, especially the tuberculous form. In the latter the disc is dull gray and whereas other forms of optic neuritis show hyperemia, this form shows almost an ischemia.

We have in the ocular examination alone a positive means of esti-

mating the extent of the disease and the probable bone destruction. Should the ophthalmoscope reveal tubercles of the choroid, the prognosis is grave.

Abducens paralysis and ptosis are occasionally observed. Duane states that, "especially the otitic abscess of the temporal lobe may cause a paralysis of the third (rarely of the sixth) nerve. Being associated with other symptoms of pressure, especially optic neuritis, and a crossed hemiplegia."

We were taught that in meningitis the pupils were contracted. Equally contracted pupils are very inconstant in the class of cases I offer for your consideration. Serous meningitis quickly develops from aural disease and is ushered in with rapid pulse, high temperature, delirium and pressure symptoms. In these cases ocular signs are very prominent, especially diplopia, abducens paralysis, ptosis, and optic neuritis due to basal origin.

In aural disease we must look for inequality of the pupils. Subdural abscess and cerebellar abscess have a train of symptoms chiefly of pressure, and frequently are accompanied by choked disc.

Aside from fever and pulse rate, brain tumor and brain abscess have a very similar symptomatology. C. P. Knapp states that 80 per cent. of brain tumors show optic neuritis. Optic neuritis occurring in the course of middle ear disease may indicate the formation of an abscess as a result of destruction of bone with transmission of the germ-laden fluid along the meninges.

Immediately before such invasion there occurs slow pulse, vomiting, vertigo, nystagmus, even inequality of pupils, dimness of vision, metamorphopsia and inability to fix. With intracranial invasion, other than sinus thrombosis, we have the usual signs of meningitis.

In tuberculous cases, tubercles of the choroid as well as choked disc may be present. Spiller says that "often neuritis is present in basilar meningitis and choked disc in cerebral tumor. An abscess on the right optic thalamus, in addition to occipital pain on the affected side and vomiting, had double optic neuritis, weakness of the face and limbs of the opposite side, a tendency of the patient to turn to the right and to fall backward. Furthermore," he says, "nystagmus is to be regarded also when an infection focus is localized in small areas, as may be from extension of ear disease. Such abscesses give a train of symptoms very closely resembling brain tumor."

Naturally an abscess has a shorter developmental stage, cerebral abscess being often accompanied by purulent meningitis. From his wide experience, Mr. Marcus Gunn, of London, concludes that in brain tumors the neuritis is of higher grade on the side corresponding to the lesion. The intracranial causes of choked disc in order of frequency are meningitis, tumors, gummata, sclerosis, tubercle, cysts and aneurysm. In children tuberculous meningitis is the most common cause.

With regard to abducens palsy, this may or may not be unilateral.

Inequality of the pupils has been observed in tumor of the corpora quadrigemina. Spiller states that "in at least two of my cases of pontal lesion the pupil was smaller on the affected side, showing that the iris nerve fibres pass through the pons." In two of his cases spontaneous nystagmus was present on opposite side of the chief lesion, causing weakness of external recti muscles from pressure upon or direct involvement of the nucleus of the abducens nerve. Nystagmus may be the result of paresis of the ocular muscles. Care must be used and not consider such as lobyrinthine.

A case mentioned by Dr. John J. Kyle, of Indianapolis, showed, one week after operation for acute mastoiditis, delirium lasting two weeks, temperature varying between 100° to 105°, some pressure symptoms; in spite of these choked disc was not present. No secondary operation was performed—recovery resulted.

The following case is interesting. I report it through the kindness of Dr. Nietert, of St. Louis, only briefly reporting the findings. Two months before Dr. Nietert saw the case the young man had dizziness, a tendency to fall, previously pain in the ear, also headache, believed to be due to ear trouble. A blister was applied over the mastoid, as acute mastoiditis was considered to be developing. When the doctor saw the case first the prominent symptoms were stupor, frontal pain and photophobia. The first ocular examination showed the pupils equal, veins slightly engorged, otherwise fundus normal. Two weeks later slight choked disc somewhat more marked on the right side was found. Aural examination showed nothing, even an intact membrana on the affected side. The first operation was opening the frontal sinus from below. There was no pus present or any abnormal condition. The second operation was a craniotomy in the frontal region. The dura was loosened down to the crista galli, at the sides down to the falx cerebri and posteriorly as far as possible. The brain was soft and pulsating but Dr. Nietert thought he could determine a slight increase in intracranial pressure. The young man suddenly died during the night two weeks after the operation. Both operations were followed by healing *per primam.*

At the post mortem a large abscess, egg size, which had about it a distinct membrane, containing thin pus, indicating infection of a cyst, was located in the midcranial fossa.

This case bears out that, irrespective of location, whether optic thalamus, corpora quadrigemina or that part of the cerebrum in the midcranial fossa, distinct ocular signs do arise. It was stated that the aural examination revealed nothing, even an intact membrana tympani. The origin of the abscess remains an unsettled question.

I also wish to report the following: October 16, 1908, J. H., aet. 23, office man, thin, rather pale, large boned, came to me for relief of spots before his eyes, at times inability to see, and dizziness. At times he speaks

hesitatingly. His family history is negative. Examination, O. D. V. and O. S. V. 6/6, no refractive error. Opthalmoscope shows normal fundus, through pupils which are evenly dilated. On looking to the right a nystagmus is elicited. It appeared that he had headaches at times over the frontal region and running also to the right ear and to the neck. He had had a discharging right ear seven years ago, and had been treated at times for same and had lately again been under his family physician's care. Pulse 80, temperature 98.6°.

Ear examination: Rinne negative for all but C 4 and C 5. Externa and canal (which is large) normal, membrana practically all gone except a slight upper anterior crescent. No ossicles visible. On washing, granulations show bright above and posteriorly, a blackened promontory showing below. Warm water syringing develops nystagmus to the right. Tests for rotary nystagmus give normal reaction right and left. I treated him by removing the granulations, using chromic acid cautery, silver nitrate, dusting powder and dry packing for a month.

November 20th he submitted to curettage of the attic; result, considerable debris and cholesteatomatous material, but no ossicles. The probe showed bare bone above and passed ¾ inch back into the antrum and a cavity. On awakening from the anesthetic he developed spontaneous nystagmus to the right.

November 21. Feels well, pulse 80, temperature 99°, nystagmus present.

November 22. Moderate discharge, nausea, constant vertigo and nystagmus to right, right pupil smaller than the left, other pupil reactions normal, has normal fundus.

November 23. Above symptoms much increased. Vomits the instant he sits up. Pulse 50, temperature 100.6°. Right pupil contracted, photophobia, metamorphopsia. Disc normal, speech hesitating, mental apathy. About the ear is no pain or swelling.

The following day I performed the radical mastoid operation, making the usual skin incision, and encountered a very hard, thick mastoid all the way down to the antrum. No cells, but beginning with the antrum a large cavity extended backward containing cholesteatomata and granulations. The median wall of the cavity was the well polished, bony plate covering the sigmoid. The facial was located deep. No fistula were found. The canal was packed, wound closed, after doing the Stacke plastic from below.

November 25. His ocular symptoms have left excepting pupil still smaller on right side. Nystagmus of lessened degree. Fundus normal.

November 26. Pupils both equal. Sees his surroundings clearly and has no nystagmus. Recovery uneventful.

Not being able to estimate the extent of disease by any one of its signs, especially so in diseases affecting the head, I feel that in many

cases it is imperative that with aural examination, goes ocular, hand in hand.

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DISCUSSION.

Dr. Klokke, in closing, stated in answer to Dr. Scholz, that he did not consider it too late to operate when a choked disc was present, but agreed with Dr. Barck that simple otitis is never accompanied by ocular symptoms. Fullness of the jugular vein is not an exact symptom. MacEwen holds that contracted pupils indicate only irritative conditions.

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EDITORIAL

THE COUNCIL ON PHARMACY AND CHEMISTRY AND ITS RELATION TO THE UNITED STATES PHARMACOPEIA.

The recent election of Dr. George H. Simmons, Editor of the *Journal of the American Medical Association*, as a member of the Board of Trustees of the U. S. Pharmacopeia, is a recognition of compelling force of his remarkable talents for constructive organization and executive direction of the affairs placed under his control. It is, furthermore, a pronounced recognition by the highest authority on pharmacy in this country of the important mission which the Council on Pharmacy and Chemistry fills—a fitting climax to the reform in therapeutics instituted and prosecuted by that body—and will have a far-reaching influence in the convention for the tenth decennial revision of the Pharmacopeia at Washington next May.

For the medical profession this means that the next edition of the Pharmacopeia will again partake of the nature that its originators—the physicians—intended it to have, *i. e.*, a compilation of drugs and their uses arranged primarily for the information of the physician and, secondarily, for the guidance of the pharmacist in filling prescriptions. For the pharmacist it means that pharmacopeial preparations will become

popular with physicians and preponderate over non-standardized articles and articles of unknown or unreliable composition, in prescription writing. Thus the best interests of the physician, the pharmacist and the patient will be subserved and the science of therapeutics distinctly advanced.

When it was first organized the Council on Pharmacy and Chemistry met a cold and stubborn front in some quarters of the pharmacy profession,—a feeling that was shared by a few uninformed physicians—but with a clear understanding of the real intents and purposes of the work, all right-minded physicians and pharmacists quickly abandoned their antagonism and unreservedly supported the reform.

The most recent instance that has come to our notice of a drug journal openly supporting the Council is the *Midland Druggist and Pharmaceutical Review*. Hitherto lukewarm, not to say indifferent, to the work of the Council, the *Midland Druggist* now becomes unequivocally supportive of therapeutic reform by endorsing the Council and its work and applauding the election of Dr. Simmons to the Board of Trustees of the U. S. Pharmacopeia, in words which will go far toward removing all apprehensiveness that either the Council or Dr. Simmons might favor any action that would have an adverse effect upon pharmacy or the pharmacist. In the December, 1909, issue of the *Midland Druggist* we find a contribution from Dr. Puckner, Secretary of the Council on Pharmacy and Chemistry, especially prepared for the enlightenment of pharmacists in relation to the work of the Council, a biographical sketch of Dr. Puckner and also of Dr. Simmons.

The vast fund of information at the command of the Council concerning every phase of the manufacture and sale of pharmaceuticals, not only in this country but also in Europe where many of the preparations sold in the United States have their origin, will place before the convention a store of knowledge relating to the drug industry that has never been approached at any previous convention. Under these circumstances there can eventuate only influences for the highest good for both medicine and pharmacy.

THE STATE'S RESPONSIBILITY IN THE PREVENTION OF DISEASE.

The cause of disease prevention is attracting the supportive influence of very many organizations outside of the medical profession. The instinct of self-preservation is being rapidly lifted out of the narrow channel that has hitherto confined it to times of threatened physical as-

sault or impending catastrophes, and given that wider and broader application which includes self-protection against diseases that the achievements of medical science have shown to be preventable. Pursuing this thought to its last analysis, we fetch up at the proposition of the State's responsibility for the sacrifice of lives that can be and ought to be preserved.

This responsibility of the State in the conservation of life is graphically portrayed in a paper, "The State and the Death Roll," by Mr. E. E. Rittenhouse, President of the Provident Savings Life Assurance Society of New York. "Over 600,000 human lives are needlessly sacrificed in the United States every year," is the opening declaration to smite the reader's credulity; and, as if this were not enough to stagger belief, Mr. Rittenhouse lays a further strain upon the imagination of the uninformed by affirming that "there are 3,000,000 persons seriously ill in the United States, at all times, more than one-half of which illness is preventable."

Unbelievable though it may seem, these statements are in reality practically correct. How often does the physician see organic disease which he knows could have been prevented form developing to the stage of incurability had it been seen in its incipiency? Much chronic invalidism can be obviated and vast numbers of people kept in comparatively perfect health if abnormalities are discovered in their early stages.

This is where the intervention of the State should enter, according to Mr. Rittenhouse's argument. In answer to his own query, "How Can the State Improve These Deplorable Conditions," he says:

> It should enlarge its health department work in two directions: *First.* It should put into effect at once a systematic and permanent campaign of education for the prevention of disease of all kinds by the distribution of health bulletins and the liberal use of health and medical inspectors, and by other methods.
>
> *Second.* It should give free medical examination, periodically, to any who may desire it, for the purpose of detecting disease in time to check or cure it.

There is a soundness and a saneness in these views which should arouse the State and the nation to abandon the indifferent attitude now so manifest toward the preservation of the health and lives of the people, and cause them to establish a practical system of instruction in well-recognized methods for protection against the encroachment of those diseases which can be prevented when brought to the attention of the physician at an early period of their existence. If this cannot be accomplished by less harsh measures, laws should be enacted compelling all persons to undergo physical examination at certain specified periods.

THE INFLUENCE OF THE COUNTY MEDICAL SOCIETY.

An illuminating example of the usefulness of the county medical society, when it is active, live and earnest in applying its influence to the solution of the practical problems that affect the health of the community, comes to us from the Greene County Medical Society. The Springfield physicians, members of the Greene County Medical Society, have had under investigation for some time a plan for supplying the city with pure water. At present the water is obtained from two springs located in the hills several miles from the city; and, ordinarily, it is quite satisfactory for all purposes. Occasionally, however, in the fall and spring of the year, freshets from the hills discolor and vitiate the healthfulness of the water, and carry into it animal and human excreta from surrounding farmlands. There is no filtration plant at Springfield at present. A recent outbreak of typhoid fever aroused the citizens to such a pitch of indignation that a strong feeling grew up in favor of city ownership of the water supply. The water company, a private corporation, as a matter of course, aggressively antagonized this sentiment and countered by offering to filter the water from Ritter Springs and pass the water from Valley Mills Spring through flood gates and several miles underground to obtain the same result as by filtration. Here the town people called upon the county medical society and asked for the appointment of a committee of its members to investigate the subject. In accordance with this request Drs. B. F. Fortner, C. E. Fulton, D. B. Farnsworth and F. B. Fuson were appointed on the committee and their report has just been submitted.

This report discloses an immense amount of work done by the committee and evidences the influence of the county medical society in securing for the people adequate protection against a contaminated water supply, for we find that the committee held out against the water company until that corporation agreed to filter all the water instead of only a part of it. The water company has accepted plans for the erection of a filtration plant guaranteed to deliver clear, bright, filtered water with a bacterial content of not more than 100 bacteria per c.c. The work on the plant is to be commenced at once and finished early in May.

GOVERNOR HADLEY AND THE HOOKWORM.

As we go to press the Conference on Hookworm Disease, at Atlanta, begins its session; but the medical profession of Missouri will have no official representative participating in the deliberations of that important

body, to return with a report of the conclusions that may be reached as to the causation, prevalence and eradication of this preventable disease.

Governor Hadley, it is reported, could see no virtue in appointing a delegate from Missouri to attend this congress of physicians. The hookworm as a possible factor in the affairs of this State, medical or political, does not loom large in the purview of the Governor's horizon, and, therefore, his failure to appoint a delegate from Missouri, though certainly criticisable, might not, of itself, have called forth more than a mild rebuke. When, however, he not only refused to appoint a delegate but announced as his reason therefor that he "draws the line at hookworm conventions," he exhibited an astonishing puerility of perceptive and reflective faculties.

The fact that a Missouri physician, the late Dr. Walter L. Blickhahn, at one time superintendent of the St. Louis City Hospital, was among the first to detect and report the existence of hookworm disease in this State and in the United States,* may not be generally known, even in the medical profession; but the Governor's ignorance of the profession's acknowledged distinction in this direction in no way lessens the gravity of his neglect to appoint a delegate to the convention now assembled to study this disease.

The medical profession of Missouri has made great sacrifices for the State and is ready to make greater sacrifices for the benefit of the people; but the State government cannot escape its share of responsibility —receiving all and giving nothing. The profession has certain rights as voluntary benefactors to the State and ready recognition of these rights ought to be conceded.

WHAT IS CHIROPRACTICE?

Now we know what chiropractice is: it is legal. Such at least is the finding of a St. Louis jury, who acquitted one of the cult of the charge of practicing medicine without a license.

With such decisions as this allowing the city and State to be overrun with quacks and charlatans, the medical profession will experience considerable difficulty in immolating itself upon the altar of the public good; and in spite of their best endeavors to prevent the people from being humbugged by ignorant and incompetent persons, doctors will be compelled to continue business at the old stand and administer to the

*A Case of Ankylostomiasis. By W. L. Blickhahn, M. D. *Medical News*, December 9, 1893.

sick and afflicted who have been made worse by the impudent machinations of such fakers.

The actions of this particular infractor of the medical practice act will have further attention of the St. Louis Health Department, and we hope another jury will exhibit somewhat of that degree of intelligence in the interpretation of the medical law, in the light of present day knowledge, which impelled Judge Williams to rule, in the State vs. Larson: "The Court instructs the jury that holding one's self out and representing and professing to be able to heal disease, no matter by what process, is practicing medicine within the meaning of the law."

THE CHAMBLEE CANCER CURE.

The pertinacity of the medical faker yields only to the crushing fraud order of the United States Postoffice Department. For many months the St. Louis Health Department has endeavored to convict E. R. Chamblee of illegal practices in connection with his cancer cure institution, but, having a medical diploma and license to practice, the loop-holes in the law were too wide and broad to enmesh him.

Chamblee, of whom Mr. Adams in the Great American Fraud Series, published in *Collier's* says:

> I can do no more than mention, by way of warning, a scoundrel who endeavors to frighten women into taking his treatment by advertising in the papers, "In woman's breast any lump is cancer."

has gone to California, according to reports in the daily press. It is not likely that he will lie idle in the sunny groves of the Golden State, nor dwell quietly midst the oranges and limes. His kind seeks the lime light and the glare of newspaper publicity. It would be well, therefore, for the profession of California to watch for a new cancer cure advertisement in the daily papers. Should it appear, let the postoffice department investigate the business, and the antecedents of its proprietors.

DRURY COLLEGE TO HAVE A MEDICAL COURSE.

Advices from Springfield inform us that Drury College will add a department of medicine to its other curricula, beginning with the first semester in February. Such an announcement, coming as it does at a time when the trend of events leads more to consolidation of medical

colleges and greater restriction in the qualifications of students entering upon the course, partakes somewhat of the nature of a shock to the high ambitions of the State, medically. We have too many medical colleges—far too many—in Missouri, and news of the consolidation of some existing institutions would be in much greater harmony with the order of the day, and be received with a finer pulse of gratification than the knowledge that another college has added a medical course.

We have very serious doubts of the wisdom of this move on the part of Drury College, even though it is intended, for the present, that only the two first years of a medical course will be taught; nor will the allurement held out to the prospective matriculant that the "medical student can procure a diploma from the college and a degree of doctor of medicine in six years," add much to the doubtful credit of having increased the number of medical departments of colleges in this State from eleven to twelve.

ANNUAL MEETING OF THE SECRETARIES.

The County Society Secretaries Association will meet in annual session at Hannibal, May 3, 1910, when matters of interest to every secretary will be discussed along the line of our stated objects: "To broaden the scope and to strengthen the ties; to develop and harmonize medical society work throughout the State." Any secretary having a special topic to suggest for a paper, is cordially invited to communicate with the secretary, as the program will be arranged within the next thirty days. Address: Dr. Chas. Wood Fassett, Secretary, St. Joseph, Missouri.

PERSONAL AND NEWS NOTES

Dr. Kenneth W. Millican, formerly editor of the St. Louis *Medical Review,* has accepted the editorship of the Bulletin of the Municipal Tuberculosis Commission.

Dr. Orville H. Brown has resigned the position of superintendent of the State Sanatorium for Incipient Tuberculosis, located at Mt. Vernon, and moved to St. Louis.

Dr. Edward H. Skinner, of Kansas City, who has been in Europe for several months studying in the Roentgen laboratories, will return about February 1st and re-establish his x-ray laboratory in Kansas City.

Dr. J. Park Neal, acting superintendent and house surgeon of the General Hospital at Kansas City, has resigned his position. It is probable that the office of house surgeon will be abolished. Dr. Neal will enter private practice in Kansas City with offices in the Argyle Building.

Several physicians in St. Louis were prosecuted in the police courts recently for failures to report existence of contagious diseases among some of their patients.

Ninety-three thousand dollars was raised by the members of the Jewish Educational and Charitable Union in St. Louis last month, the fund to be used for establishing two institutions for the Jewish population, an orphans' home and a sanatorium for incurable tuberculosis cases.

Eradicating the Plague from San Francisco. Report of the Citizens' Health Committee and an account of its work.

This is a most important and timely document. The pandemic of plague is encroaching slowly, but surely, on our Gulf and Atlantic seaboards, and this document has been issued because it is felt that if the cities in those localities were aware of the dangers that confront them and the means to be used in meeting and combating them, great good may be done and much suffering prevented.

This report is also of value because it illustrates the efficient work which is done by the United States Public Health and Marine Hospital Service whenever an opportunity presents itself.

According to statements published in the daily press, the municipal commission on tuberculosis, in St. Louis, estimates that there are at least 10,000 cases of consumption in St. Louis, although in the past three years only 5,581 cases have been reported to the Health Department. This indicates, if the estimate is correct, that scarcely one-half of the known cases of tuberculosis are reported, notwithstanding that St. Louis boasts of a law requiring physicians to report all tuberculosis patients. Such derelictions run counter to the proud boast that our profession is the Ultima Thule of altruism and humanitarianism. Every

hidden consumptive is a menace to the community and a blight upon the professional career of the physician who attends the patient.

The State Board of Health, at its annual meeting in Jefferson City last month, elected the following officers: President, Dr. Ira W. Upshaw, of St. Louis; vice-president, Dr. E. F. Robinson, of Kansas City; secretary, Dr. Frank B. Hiller, of Jefferson City.

The Board appointed about nine hundred registrars in the various registration districts to report births and deaths in compliance with the provisions of the new vital statistics law.

At the request of Governor Hadley, the Board made a thorough inspection of the sanitary conditions of the Penitentiary.

As an outgrowth of the Conference on Infant Mortality, held in New Haven, Conn., last December, the American Association for the Study and Prevention of Infant Mortality has been formed with headquarters at the Medical and Chirurgical Faculty Building in Baltimore, Md., and an active campaign will be inaugurated having for its object the prevention of race waste rather than race suicide. The membership will include physician, educators, students of social economy, and all other individuals interested in the uplift of public health and moral standards. Dr. H. M. Knox, Jr., is president of the Association.

A man down in Mississippi, we are told in press dispatches, true to his vow to his wife,—who was opposed to the use of drugs,—never to mention medicine to her or call a doctor, saw her die in great agony and refused to break his vow or allow his neighbors to administer even a potion to soothe her dying moments, or, mayhap, save her life.

Some vows were made to be kept; some to be broken. This was one to be broken. Such behavior is more than inhuman, it is diabolical.

Some day, not far in the purple distance when the light of modern medicine has filtered through the mind of man, the responsibility of the individual in respect of the health and lives of his fellow-beings will compel an accounting to the courts for inaction in the presence of sickness and death from preventable causes.

COUNTY SOCIETY NOTES

ADAIR COUNTY MEDICAL SOCIETY.

The Adair County Medical Society held its regular monthly meeting on January 6, 1910, at the office of Drs. Martin and Parrish, at Kirksville, with the following members present: Drs. Martin, Callison, Butler, Hanks, Quinn, E. A. Grim, E. C. Grim and Bert Parrish.

The application of Dr. A. W. Parrish for membership in the Society was read and Dr. Parrish was unanimously elected a member of the Society.

The rest of the meeting was given over to a general discussion of the subject, "Advantages and Disadvantages of Local Applications." This subject proved to be very interesting and the Society voted to take it up again.

The Society is in excellent condition; every member is manifesting a keen interest and we look forward to the year 1910 being our banner year in medical work in this county. The physicians are working together as a unit, and under such favorable conditions we see no reason why the medical profession should not prosper in the future as it has in the past.

The Society adjourned to meet with Dr. E. C. Callison, at Kirksville, on Thursday, February 3, 1910, at 7 p. m.—Bert Parrish, M. D., Secretary.

BATES COUNTY MEDICAL SOCIETY.

The Bates County Medical Society held its October meeting in Butler on Thursday afternoon and was well attended by physicians from over the county. The program included Typhoid Fever, by Dr. Boulware; Problems of Nutrition and Growth, Dr. Chastain; Coughs and Colds, Dr. Newlon; Croup, Dr. G. G. Lane.

CAPE GIRARDEAU COUNTY MEDICAL SOCIETY.

The Cape Girardeau County Medical Society held its regular monthly meeting on January 10th, with the following members present: Drs. Cunningham, Hope, Howard, Moore, Porterfield, Schultz, Wichterich and Wilson; visitor, Dr. Robbins.

After going over the report of the work for the year just closed and the routine business, the following program was rendered: "Acute and Chronic Poliomyelitis," by Dr. Moore; "Neuritis," by Dr. Howard; also the report of a case of labio-laryngeal paralysis, by Dr. Wichterich.

After each feature of the program had been thoroughly discussed, the Society adjourned.—E. H. G. Wilson, M. D., Secretary.

CHARITON COUNTY MEDICAL SOCIETY.

The regular meeting of the Chariton County Medical Society was held at the Brunswick Hotel, in Brunswick, on December 9th. There were present Drs. Knott, Wallace, Edwards, Epperly, Jennings, Brummall, Baker, Welch and Hawkins.

The Society voted to hold its regular meetings in Salisbury during the year 1910. Owing to lack of time, on account of trains being late, the president's address was held over until the January meeting.

The election of officers for the year resulted as follows: President, Dr. R. G. Epperly; vice-presidents, Dr. G. W. Edwards and Dr. Otis T. Morey; secretary and treasurer, Dr. C. A. Jennings; reporter, Dr. G. W. Hawkins; delegate to the State Association, Dr. R. G. Epperly; alternate, Dr. J. S. Wallace; medical representative, Dr. Harry E. Tatum; surgical representative, Dr. J. H. P. Baker; censors, Drs. Knott, McAdam, Kirkpatrick; legislative representative, Dr. J. S. Wallace; committee on year book of program, Drs. Wallace, Brummall, Welch and Jennings.

The Society decided to hold a public meeting in Salisbury, Mo., on March 10th.—G. W. Hawkins, M. D., Reporter.

COLE COUNTY MEDICAL SOCIETY.

The Cole County Medical Society met at Jefferson City January 13th. The following members were present: Drs. Hough, Ettmueller, J. N. Enloe, Clark, Hiller, Bedford, Hill, Aldridge, Cortez, Eurol, Dallas and Summers.

The following officers were elected for the ensuing year: President, Dr. J. N. Enloe; vice-president, Dr. M. R. Aldridge; secretary, Dr. J. S. Summers; treasurer, Dr. Gustav Ettmueller.

DAVIESS COUNTY MEDICAL SOCIETY.

The Daviess County Medical Society met in Gallatin, on January 11th, in the Y. M. C. A. building with President Wetzel in the chair.

A very interesting paper was read by Dr. C. E. Waller, of Altamont, entitled, "Dispensing of Drugs." The paper brought out a very liberal discussion from the members of the Society.

The annual election of officers was then held and the following were elected for the ensuing year: President, Dr. N. M. Wetzel, Jameson; vice-president, Dr. C. E. Waller, Altamont; secretary, Dr. M. A. Smith, Gallatin; delegate to the State Convention at Hannibal, Dr. H. E. Songer, Jamesport; alternate, Dr. N. M. Wetzel, Jameson; reporter, H. E. Songer; committee on program, Dr. Songer, Dr. Wetzel president, Dr. Smith, secretary.

Dr. Wetzel presented two pathological specimens that were very interesting.

The next meeting will be held in Gallatin in April.—H. E. Songer, M. D., Reporter.

HOWELL COUNTY MEDICAL SOCIETY.

The Howell County Medical Society met in regular session at 1:30 p. m. on December 9th, 1909. Members present: Drs. Nichols, Thornburgh, Dixon, Johnson, Spear, Evans, of West Plains; Drs. Rowe and Davis, of Willow Springs; Dr. Anderson, of Mt. View.

Dr. J. McB. Johnson presented a clinical demonstration showing how easily errors are made through a superficial diagnosis. A general discussion resulted in much benefit to those present.

Dr. A. H. Thornburgh read a very able paper on "Toxemia," which was generally accepted as a very scientific production and generally discussed.

Election of officers for 1910 resulted as follows: President, Dr. J. McB. Johnson; vice-president, Dr. J. C. B. Davis; secretary, Dr. E. E. Evans; treasurer, Dr. R. S. Spear; delegate, Dr. D. J. Nichols.

Adjourned until the second Thursday in February in 1910.—E. E. EVANS, M. D., Secretary.

LAFAYETTE COUNTY MEDICAL SOCIETY.

The Lafayette County Medical Society held its regular monthly meeting at Higginsville, Tuesday, December 14, 1909, with the following members present: Drs. L. Carthrae, Sr., C. T. Ryland, C. W. Ott, W. A. Breaklein, E. A. Hoefer, W. A. Porter, T. A. McLennan, J. E. Tucker and J. G. W. Fischer.

After the regular business routine was disposed of, the following officers for the coming year were elected: President, J. A. Mann, of Wellington; first vice-president, T. A. McLennan, of Higginsville; second vice-president, J. A. Schneider, of Concordia; secretary and treasurer, E. A. Hoefer, of Higginsville; delegate, Lewis Carthrae, of Corder; board of censors, Hy. Williams, 1 year; J. G. W. Fischer, 2 years; C. T. Ryland 3 years.

Dr. W. A. Breaklein read an instructive paper on "Diseases of the Left Heart."

Upon motion the Society accepted the offer by the members of Higginsville to entertain the Society with a banquet at the Arcade Hotel January 11, 1910.

MEETING OF JANUARY 11.

The Lafayette County Medical Society met in regular monthly session at the Arcade Hotel, January 11, at Higginsville.

After the necessary business was transacted, the Society was royally treated to a sumptuous dinner given under the auspices of the Higginsville members. Dr. Breaklein welcomed the guests in a few well chosen words in answer to the toast "Our Guests." Dr. Chalkley responded to the toast "Our Hosts;" Dr. L. Carthrae, to "Our Wives;" Dr. Hoefer, to "Ourselves;" and Dr. J. A. Mann, our new president, in a very appropriate address, to "Our Society." Dr. C. T. Ryland acted as toastmaster. The guests were highly amused and entertained by several splendidly rendered recitals by Mrs. Gleason.

Those present were: Dr. and Mrs. W. A. Breaklein, of Higginsville; Dr. and Mrs. Lewis Carthrae, Sr.; Dr. and Mrs. Lewis Carthrae, Jr.,

and Miss Edna Carthrae, of Corder; Dr. J. G. W. Fischer, of Alma; Mrs. W. A. Gleason, of Victoria, B. C.; Dr. and Mrs. E. A. Hoefer, of Higginsville; Dr. and Mrs. T. A. McLennan, of Higginsville; Dr. E. J. McLennan, of Medford, Okla.; Dr. J. A. Mann, of Wellington; Dr. and Mrs. C. W. Ott, of Higginsville; Dr. W. A. Porter, of Higginsville; Dr. C. T. Ryland, of Lexington; Miss Florence Schmelzer, of Higginsville; Dr. and Mrs. W. C. Webb, of Higginsville; and Dr. J. E. Tucker, of Lexington.—J. G. W. Fischer, M. D., Reporter.

LAWRENCE-STONE COUNTY MEDICAL SOCIETY.

The members of the Lawrence-Stone County Medical Society made no mistake when they decided to accept the hospitality of the physicians of Crane, and hold their closing meeting for the year 1909 in that city. In addition to an excellent dinner at the Hotel Portland, augmented by a generous supply of quail, supplied by the "nimrods" of the profession, the entire meeting was a success.

There were no "wall-flowers" present, everyone took part in the discussions, openly and freely, not for the purpose of advertising any pet theories, or to become prominent, but simply to contribute to the general fund of information and to give each other the benefit of their own successes and failures, in that way which has set the medical profession apart and above all others, and made it one of the noblest of callings.

In addition to the regular quarterly meetings of the year, the Society has held two public meetings. One during the month of May at which Dr. J. N. McCormack, of Bowling Green, Ky., addressed an exceptionally intelligent audience of about one thousand people at the Aurora Armory Theatre. Dr. McCormack's personality and his message certainly aroused the people, as there has never been a time when so much interest has been taken in hygenics, both private and public.

The scientific programs throughout the entire year, have covered the ground of medicine, surgery, bacteriology and medical jurisprudence.

The officers for the year 1910 are as follows: Dr. J. P. Andrews, Marionville, president; Dr. C. W. Shelton, Mt. Vernon, vice-president; Dr. J. B. Fleming, Aurora, re-elected secretary; Dr. T. D. Miller, Aurora, re-elected treasurer. Delegate to the State Association, J. P. Andrews; alternate, J. B. Fleming; censor, E. E. Waid; reporter, D. M. Huffman, Crane; auxiliary committeeman, A. H. Madry, Aurora.—J. B. Fleming, M. D., Secretary.

MARION COUNTY MEDICAL SOCIETY.

The members of the Marion County Medical Society held their regular meeting in the office of Dr. Hornback on November 15th. The following physicians being present: Drs. Bounds, Banks, Goodier, Winn, Coons, Schmidt, Detweiler, U. S. Smith, Howell, Hill, Hays, Baskett, Guss, Hornback, Bourn, Waldo and Ross.

Dr. Goodier presented a patient and gave an extended account of the case which was afterwards discussed at length, by nearly every doctor present. It was the consensus of opinion that in many cases irregular heart beats are caused from the excessive use of tobacco. It was argued that excessive use of tobacco cause irregular and intermittent heart beats

and that it is injurious to health. Several of the doctors stated that they had treated patients for irregular heart beats, especially those who were excessive users of tobacco and that after they had quit the use of tobacco their heart beats became normal. This was one of the most interesting subjects discussed and was very instructive. In fact it is a great pleasure to attend these medical meetings and listen to the discussions and exchange of ideas.

Under the head of "Interesting Cases," Dr. Hill spoke of a patient that he treated a short time ago who lost her power of speech and her jaws became set and remained in that condition for about thirty-six hours, although at the time there was nothing wrong with her bowels or her kidneys. The patient recovered her power of speech, her tongue loosened and her jaws resumed their normal condition. It was a very remarkable case and was discussed by several of the members. Others spoke of interesting cases that had come under their observation.

MISSISSIPPI COUNTY MEDICAL SOCIETY.

The Mississippi County Medical Society met in regular session at Charleston November 1st. The following members were present: Drs. Wallace and Love, of Bertrand; Drs. Lynch, Boone, Presnell, Reed, Marshal, Chapman and Howle, of Charleston; visitors: Dr. W. F. Grinstead, of Cairo, Ill., and Dr. R. K. Ogelvie, of Blodgett, Mo.

Dr. H. H. Marshall was elected to membership.

Dr. Wallace, of Bertrand, read a paper on "The Treatment of Typhoid Fever." His usual treatment was first to cleanse the alimentary canal, using for this purpose calomel, followed with a cathartic and turpentine. He did not use cold baths, preferring warm water. For the fever he usually prescribed aconite.

Dr. Ogelvie, in opening the discussion on the paper, objected to turpentine because in his opinion its use is injurious to the kidneys; he also objected to aconite for reducing the fever. He used ice cold baths for this purpose, either a sponge bath or an ice pack, preceding the application with a small amount of whisky. He favored the employment of enemas for emptying the large bowel, and followed these with sulphocarbolates.

Dr. Grimstead said we should be careful in the management of typhoid fever cases not to over-treat this disease; that is to say, we should treat symptomatically for there was considerable danger in over-dosing. His usual procedure was to give an anti-malarial treatment during the first week, quinine, preceded by calomel, and salol as an intestinal antiseptic; he used turpentine in 5 minim doses for tympanitis, followed with iodine and carbolic acid. If hemorrhage of the bowels occurs, he gave adrenalin hypodermically: if shock was present, he administered normal salt saline by hypodermoclysis.

Dr. Reed said there could be no routine form of treatment for typhoid fever, except in the case of complications. He prescribed calomel, but no solid food in necrotic cases. The Widal test he regarded as having little value except when the patient is able to resist the disease, as shown by a high opsonic index.

Dr. Boone also expressed the opinion that the Widal reaction was practically valueless for diagnostic purposes; he had discarded it as a dependable indication of the existence of typhoid fever. He advocated

the use of quinine given from midnight until noon, and during the next twelve hours he used the salicylates. Salol and turpentine, in his opinion, have elements of danger. As an antiseptic he favored acetozone.

Dr. Chapman regarded most of the cases which did not yield to quinine as typhoidal in character. He objected to the use of carbolic acid and iodine and did not prescribe these drugs in treating typhoid cases.

Dr. Marshall reported a case of cancer of the mouth which had destroyed all except three teeth of a patient three years old.—W. P. Howle, M. D., Secretary.

MEETING OF JANUARY 3, 1910.

The Society met in Dr. Vernon's office in Charleston January 3, 1910. Dr. W. S. Love, the president, presided. The following members were present: Drs. O. W. Chapman, F. S. Vernon, G. R. Wallace, W. S. Love, J. W. Lynch and J. C. Boone.

Dr. Reid read an interesting paper upon "Diphtheria." He said that while in New York he had gathered notes from the Willard Parker Hospital and presented them with some private notes in the form of a paper. Antitoxin, in the opinion of the essayist, was the most valuable treatment for diphtheria, his experience being satisfactory, especially in diphtheritic croup. He advised early dosage in sufficient amount to get results. No untoward symptoms had been observed from the use of the serum. He usually gave a calomel purge at once and then the antitoxin without delay.

The discussion was liberally entered into by nearly all present. Practically all urged the use of antitoxin. Nothing of unusual nature was reported following its use.

The Society adjourned to meet in Bertrand in February.—J. C. Boone, M. D., Secretary.

RANDOLPH COUNTY MEDICAL SOCIETY.

The Randolph County Medical Society met at Huntsville on October 28. The meeting was held in the office of Dr. S. C. Adams. While the meeting was not as largely attended as was expected, it was one of the most interesting and instructive that has been held in the county for months.

The main question discussed at the meeting was "appendicitis," in which discussion most all the physicians present took part.

The out of town physicians present were: C. B. Clapp, G. O. Cuppage, Moberly; O. F. Hatton, W. C. Alexander, Clifton Hill; Frank McCormick, Darksville; A. Aldrich, Mt. Airy. Huntsville physicians present were: J. G. Rafter, G. G. Bragg, W. P. Terrill, D. A. Barnhartt, J. R. Mabee, S. C. Adams, J. W. Taylor and R. E. Kiernan.

At the close of the session the Huntsville physicians entertained their visiting brethren with an elegant supper. The next meeting will be held in Moberly.

STE. GENEVIEVE COUNTY MEDICAL SOCIETY.

The Ste. Genevieve County Medical Society held its regular monthly meeting January 12th. Application of Dr. P. I. Aubuchon, of Bloomsdale, Mo., was voted on and he was unanimously elected a member. Report of

treasurer was read, showing cash on hand of $21.14. On motion it was approved.

Adjourned until second Wednesday in February, 1910, at 7 p. m.—R. W. Lanning, M. D., Secretary.

ST. JOSEPH-BUCHANAN COUNTY MEDICAL SOCIETY.

The St. Joseph-Buchanan Medical Society, at its last session, voted to hold weekly, instead of fortnightly meetings, in the lower lecture room of the Ensworth Medical College, and to change same from Wednesday to Thursday evening, convening in 8 o'clock sharp.

The Post-Graduate Study Course, as outlined by the American Medical Association, and elaborated by the use of the projectoscope, is now in progress and a cordial invitation is extended to the medical profession of adjoining counties and neighboring towns to attend these meetings.

No other business will be transacted at these meetings. A business session will be held once a month, at which all miscellaneous business will be transacted, including reports of committees.

A special effort is being made to increase the membership of the Society, and all members are urged to send to the secretary the names of eligible physicians who may desire to affiliate with us.

Programs, application blanks and all information will be cheerfully furnished.

Red Cross Stamps.—Christmas stamps to the number of 35,000 were sold in St. Joseph during the holidays by the Tuberculosis Committee of the county society.

BANQUET OF THE ST. JOSEPH-BUCHANAN COUNTY MEDICAL SOCIETY.

The seventh annual banquet of this medical society was held at the Hotel Metropole, on Saturday evening, December 18th, covers being laid for sixty.

Dr. J. M. Doyle, retiring president, officiated as toastmaster.

Dr. Tinsley Brown, president of the Missouri State Medical Society, was the guest of honor and responded to the toast, "Our State Society," setting forth the progress made during the past few years and its advantages to every member.

Mayor Clayton responded to "The Healthiest City on the Map" in his characteristic style, closing with a token of appreciation to Dr. Thomas H. Doyle, the senior member of the Society and its first president. The mayor told of the early work of Dr. Doyle and the many sacrifices he had made for the good of humanity. He proposed a standing toast to Dr. Doyle, who in responding, stated that he had simply done his duty and that his sacrifices, if any, were cheerfully made; his recompense was in the relief of suffering and distress.

Dr. Jabez N. Jackson, of Kansas City, who was to have been a guest, was unable to be present and his toast, "Sidelights on the Profession," was responded to in a pleasing manner by Dr. E. S. Pettijohn, of Topeka.

The "Inquiry Box," conducted by Dr. A. L. Gray, proved to be the hit of the evening, and contained many amusing thrusts at the vulnerable parts of the doctors who were present.

Dr. A. H. Vandivert responded to the toast, "The Insane Doctor," and did full justice to the subject.

"The Projectoscope as a Harmonizer," was the rather difficult sub-

ject assigned to Dr. W. L. Kenney, but was disposed of to the amusement of those present.

Dr. John H. Sampson closed the festivities by an imitation of the "Arkansaw Traveler."

REPORT OF SECRETARY FOR THE YEAR 1909.

To the President and Members of the Society:

I have the honor to present the seventh annual report of the secretary.

The year just closed has been one of great accomplishments, and everything along the line of medicine and surgery has received fresh impetus, as evidenced by the developments in spinal anesthesia, pellagra and hook-worm disease.

Our Society has entertained a number of distinguished guests during the past year and has assisted in bringing St. Joseph into prominence through the meeting of the Medical Society of the Missouri Valley in March, which proved to be the banner meeting in the history of this association. At this time several medical gentlemen of national reputation were in the city, and took part in the deliberations; among them were Surgeon-General Wyman of Washington, D. C., Dr. H. J. Boldt of New York City, Dr. N. S. Davis of Chicago, Dr. Cornelius Williams, president of the Minnesota State Medical Society, and others.

On the evening of March 16th a special meeting of the Society was held at the Hotel Robidoux, complimentary to Dr. Boldt, at which Dr. J. W. Heddens read a paper on "Rectro-Displacements of the Uterus."

On the first of May, Dr. J. N. McCormack, National Organizer of the A. M. A., gave two lectures, afternoon and evening, under the auspices of our Society.

Among the evidences of progress in our society I may mention the purchase of a projectoscope at a cost of four hundred dollars and the inauguration of the Post-Graduate Course of Instruction, as outlined by the American Medical Association.

I believe in the efficacy of the weekly meeting* another step in the direction of a metropolitan and up-to-date city.

I am firmly convinced that the Post-Graduate series will be instructive and entertaining, that our average attendance will be largely increased thereby.

The annual banquet was held at Hotel Metropole on the evening of December 18th and proved to be a very enjoyable event, the guest of honor being Dr. Tinsley Brown, president of the Missouri State Medical Society.

I hope that before the time arrives for another annual report, our Society may boast of a medical library or at least some well defined plan for its installation.

I cannot close without calling attention to the meeting of our State Society which will be held in Hannibal May 3, 4 and 5, two weeks earlier than usual and to the meeting of the American Medical Association, to be held in St. Louis, June 7 to 10. I am in favor of taking early action in regard to the St. Louis meeting, for the purpose of reserving rooms and establishing headquarters at some hotel where the St. Joseph-Buchanan County Society may be recognized as a society, and where we

*Meetings of this Society are now held every Thursday evening.

can keep in close touch with each other upon all matters of medical interest.

In conclusion I desire to extend my thanks to the officers and members of the Society for their kind assistance and coöperation, without which the secretary's duties would be very arduous indeed.—CHAS. WOOD FASSETT, M. D., Secretary.

SCOTT COUNTY MEDICAL SOCIETY.

The Scott County Medical Society met at Benton, Mo., on January 10th, 1910. The following members were present: Drs. Frazer, Milem, Wade, Hutton, Haw, Westcoat, Harris and Cannon.

Election of officers for 1910: Dr. T. F. Frazer, of Commerce, president; Dr. S. J. Wade, of Benton, vice-president; Dr. J. A. Milem, of Sikeston, treasurer; Dr. G. S. Cannon, of Fornfelt, secretary; Dr. S. J. McCabe, of Chaffe, member board of censors for three years; Dr. Roy Frazer, of Commerce, delegate to the State Medical Society.

It was decided to hold an open meeting at Benton, Mo., on the afternoon of April 4th, 1910.

Dr. Milem, of Silkeston, reported eight cases of gunshot wounds inflicted by toy pistols. Four of these cases developed tetanus, all of which died in from 36 to 48 hours. None was seen previous to the development of tetanic symptoms, at which time antitoxin was freely administered with without avail.

Dr. Milem reported that to his knowledge there were only eight wounds inflicted by the toy pistols during the holidays, four of these were the above tetanus cases, which shows that 50% of those injured developed tetanus.

Meeting adjourned to meet at Benton April 4, 1910.—W. S. HUTTON, M. D., Secretary.

SHELBY COUNTY MEDICAL SOCIETY.

The Shelby County Medical Society met on November 23, at Shelbina, in the office of Dr. Vaughn. Those present were Drs. Pollard, Vaughn, Delaney, White, Daniel, Carson, Ferguson, Dallas and Wood.

Dr. Carson read a report of a case of typhoid fever with severe meningeal complications and total blindness for two weeks. The patient, aged 4 years, made good recovery. This was an excellent clinical report.

Dr. Pollard reported a case of typhoid insanity. The general opinion of those present was that recovery would take place.

MEETING OF DECEMBER 29TH, 1909.

The Society met at Waverly Hotel, in Shelbina. On motion the regular order of business was suspended and the election of officers was taken up. The following were elected: President, Dr. W. W. Owen, Shelbina; vice-president, Dr. F. K. Roy, Clarence; secretary-treasurer, Dr. A. M. Wood, Lentner; delegate, Dr. J. D. Smith, Shelbina; alternate, Dr. A. M. Wood; censor for three years, Dr. A. H. Ferguson, Hunnewell.

It was voted to collect one dollar per member to meet the expenses of the Society.

The members then repaired to the dining room, where a menu was served that could not be surpassed. After the banquet, the following program was carried out, Dr. Pollard acting as toastmaster in the absence of Dr. Roy: A paper entitled, "The Old and the New," by Dr. Carson, but read by the secretary in the absence of Dr. Carson; "Early Experiences in Shelby County," by Dr. Smith; "Sunshine and Shadows," by Dr. Vaughn; "Politics," by Dr. Owen; "What do You Think of Us," by Dr. A. W. Ferguson.

Remarks were made by Drs. Roy and Wood. Dr. Chowning talked on medical education; the Hon. N. E. Williams also made an excellent talk. Owing to the inclement weather and the bad roads, the attendance was not so good as had been expected.

The Society has done more and better work the past year than ever before and hopes to improve the coming year.—A. M. Wood, M. D., Secretary.

MEDICAL SOCIETY OF THE MISSOURI VALLEY.

Preparations are under way for the spring meeting of this Society to be held at Omaha, Thursday and Friday, March 17 and 18, under the presidency of Dr. A. B. Somers. Invitations have been sent to a number of men of national reputation, as well as to the presidents of all the State Societies within the province of this Association.

The address in surgery will be delivered by Dr. Leonard Freeman, of Denver, Colorado, who is well known throughout the country, and whose subject, "Local Anesthesia," is a particularly timely one just now.

Members of the Association desiring to present papers at this meeting, will kindly send their applications to the secretary not later than February 10th. Abstracts of papers must be furnished by February 15th, to insure a place on the program. Address Dr. Charles Wood Fassett, secretary, St. Joseph, Mo.

SOUTHWEST MISSOURI MEDICAL SOCIETY.

The Southwest Missouri Medical Society held its annual session in Springfield on November 5th. The meeting was attended by an unusual number of physicians from the southwest section of Missouri. Dr. C. A. Moore presided at the sessions and Dr. H. S. Hill was in his accustomed place as secretary, which office he has filled for a number of years.

Among the papers read and discussed were the following: "Poliomyelitis Anterior with Complete Spastic Condition of Every Joint in the Body," by Dr. R. H. Rogers; "Gastro-Intestinal Diseases in Children," by Dr. S. W. Cossins; "Strangulated Hernia in an Infant Fifty-eight Days Old and a Successful Operation," by Dr. John N. Washington; "We Are Up Against It," by Dr. O. L. Peak.

BOOK REVIEWS

"The Errors of Mind Healing." By Reinhold Willman, M. D., St. Joseph, Mo. Published by the author.

The author says, in his preface: "This book is dedicated to all men and women who desire to assist in the promulgation of the truth concerning the treatment of human ills, as taught in biblical history, and as applied by reason and scientific research, as a duty one to another."

The authorship of this book and its dedication to a genuinely educated public constitute at least a presumptive guarantee of merit. A perusal of the volume confirms the presumption in a very pleasing manner. In this day of shallow education of the masses, by the ingestation of literary husks to the exclusion of scientific nutriment, the various healing cults have donned the usual priestly robe and assumed a commercial life in a commercial age. So it is very opportune that such a book should be written by such a man, and that we should all carefully read it. It is a scientific exposure of the quasi-religious frauds which, seen at long range, tend to mystify the educated thinker, and is actually gulped down *en masse* by the ignorant and the superstitious.

The author seems to think it not enough to waive aside these antique rehabilitated cults which are building temples throughout the country, and, worse still, rearing temples in human hearts. In this hothouse age of dazzling discovery, of decadence of religious thought, many for want of scientific training, are an easy mark for a superstition little less logical than the old fashioned witchcraft.

While we as physicians may not feel called upon to enter the lists as reformers we should at least have at command the reasons for our faith, and not conclude that these metaphysical bents, which have had a fitful existence since the dawn of human reason, are unworthy of our steel. The purpose of this book is to invest us with our knightly armor, which we should buckle about us in a more knightly manner.

B. F. F.

Minor and Operative Surgery, Including Bandaging. By Henry R. Wharton, M. D., Professor of Clinical Surgery in the Woman's Medical College, Philadelphia. New (seventh) edition, enlarged and thoroughly revised. 12mo, 674 pages, with 555 illustrations. Cloth, $3.00, net. Lea & Febiger, Philadelphia and New York, 1909.

The general plan and arrangement of this work is the same as in the preceding six editions. Part I. is devoted to bandaging. Part II. deals with minor surgical procedures, and in this section perhaps lies the chief value of the book. Small but important matters which the larger surgeries ignore, are fully discussed. Many young graduates could describe an appendectomy or pylorectomy on an examination paper who could not tie a surgeon's knot or apply a dressing properly in the operating room. For such, and for the practitioners who do only a little

minor surgery now and then, this work fills a vacancy in medical literature.

Subsequent sections of the book take up asepsis, fractures, dislocations, ligations, amputations and the operative surgery of major operations. All these subjects are treated in a very practical manner.

G. B. L.

THE PRINCIPLES OF BACTERIOLOGY. A Practical Manual for Students and Physicians. By A. C. Abbott, M. D., Professor of Hygiene, University of Pennsylvania. New (8th) edition, thoroughly revised. 12mo, 631 pages, with 100 illustrations, 26 in colors. Cloth, $2.75, net. Lea & Febiger, Philadelphia and New York, 1909.

Prof. Abbott's book has now been before the public for nineteen years, but in its various revisions it has kept pace with the progressive science of bacteriology. This latest edition contains the very newest bacteriological ideas. The first part of the book is devoted to the fundamentals of bacteriology, and a description of laboratory technique. It is written for beginners. The second part deals with the practical application of bacteriological methods. It contains much (*e. g.*, the chapters on antisepsis, sterilization, examination of water, etc.) that is interesting to the practitioner as well as to the student. The chapter on infection and immunity is especially well written, and is to be recommended to those who want a clear statement of the latest views on these important subjects.

The book serves two purposes: it presents in a clear, simple manner the more abstruse phases of the subject, and it serves as a practical laboratory guide.

G. B. L.

TREVES' OPERATIVE SURGERY. New (3d) Edition. A Manual of Operative Surgery. By Sir Frederick Treves, Bart., G. C. V. O., C. B., LL. D., F. R. C. S., Serjeant-Surgeon to H. M. the King, Surgeon-in-Ordinary to H. R. H. the Prince of Wales, Consulting Surgeon to the London Hospital; and Jonathan Hutchinson, F. R. C. S., Surgeon to the London Hospital. New (3d) Edition, revised and rewritten. In two octavo volumes. Volume I., 775 pages, with 193 engravings and 17 full-page plates. Half-morocco, $6.50, net. Lea & Febiger, Publishers, Philadelphia and New York, 1909.

The growing appreciation of the highest class of foreign medical literature is shown in the demand for successive editions of such pre-eminent works as Treves' Operative Surgery. The quantity printed is limited and the price accordingly seems high, but the value is incomparably greater than the price to the reader who wishes to know the experience of the foremost English surgeon of to-day, and to have the benefit of his judgment in determining the best operation for a given case. This new edition has been completely rewritten at the request of Sir Frederick Treves by his colleague, Jonathan Hutchinson. The illustrations have been equally brought to date with new figures and a number of original colored plates.